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Monograph on

HOLISTIC APPROACH TO DATING IN ANCIENT HISTORY ESPECIALLY INDIAN HISTORY

94.

By

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Commissioner of Museums,
Government Museum, Chennai-600 008.

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FOREWORD

The problem of Dating in Ancient History especially Indian History has been felt keenly. A solution to the issue has been elusive so far. There has been more controversy generating heat rather than light in getting agreed dates. This is due to the lack of written records and deciphered script. The language has not been decoded with general agreement. This was the case with Ancient Egypt till the Hieroglyphs were decoded with the help of a tri-script stone called the Rosetta stone.

Despite this decoding, further controversy has been recently generated by James Hancock and others when they attempt to relate the age of the civilisation with data from other disciplines such as Astronomy or Hydronomy. The age of the Sphinx is felt to be several thousand years older than currently believed.

In every field of knowledge, the learned amateur by bringing in a fresh look at the subject along with his enthusiasm to learn and grasp the subject has made path breaking contributions to enhancing knowledge in that field. Ramanujan in Mathematics, Col. Mackenzie, the surveyor who rescued the Amaravati sculptures or Bruce Foote who came to be considered as a great Anthropologist after the Adichannallur skull findings were published are some names that spring to the mind. Dr. Kannan has similarly brought in a fresh perspective to the Dating of Ancient Indian and World History from an Indian viewpoint. He has travelled extensively with a historical outlook and visited many ancient sites and museums to gather material for this monograph.

The word "holistic" is very popular in recent times. It started with medicine when several systems like Allopathy and Ayurveda systems of Western and Indian medicines were used to treat diseases like rheumatism etc., which were given palliatives in the Allopathy system with a lot of side effects but were not permanently cured. This made people realise the need for an overall perspective rather than a limited view. Therefore, while specialisation has its own place, a general or overall view is essential for success in tackling any issue.

The 'Holistic approach to Dating' is essentially born out of this multi-disciplinary approach. Such an approach involves enormous reading in different subjects, consultation and interaction with experts and laborious fieldwork. I find in this work by Dr. Kannan evidence that all the hard labour required has been put in by him. As an amateur astrologer, he has used the hitherto neglected fields of Astrology and Astronomy for dating events or corroborating or contradicting existing dates in Ancient History. This is a unique feature of this work.

I feel that this path breaking work will give a fresh impetus to new approaches to Dating in Ancient History especially Indian History.

I commend this work as a good piece of original research in keeping with the high traditions of the Government Museum, Chennai.

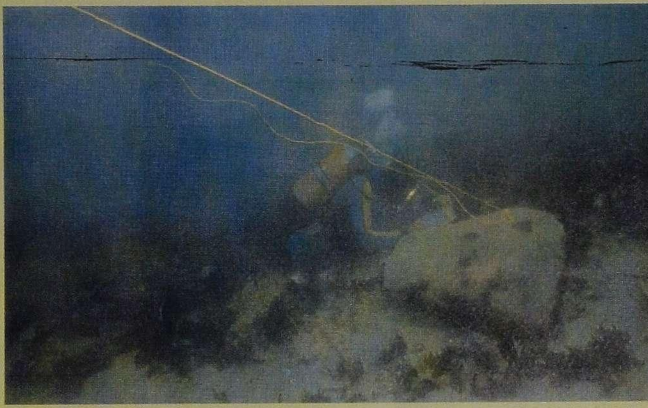
Ramakrishnan

19-5-2000

(S. Ramakrishnan I.A.S.)

Picture No. 5. Two fragments of pottery of an exceptional type, with animal motifs, from Mohenjo-daro show attractive colouring in red and buff.

(Wheeler, 1966)



Picture No. 10.
Submerged bastion of Dwaraka

(Rao S.R., 1988)

Picture No. 11.
Dock Yard, Lothal

(Rao S.R., 1988)

Picture No. 20.
(Rock Art Depiction in Red Ochre,
Kotagiri Taluk, Nilgiris)
Copied by Mr. M. Ravichandran, B.F.A.,
Gallery Guide, Art Gallery, Ooty.
Vellerikkombai Rock Shelter

HOLISTIC APPROACH TO DATING IN ANCIENT HISTORY ESPECIALLY INDIAN HISTORY

ABSTRACT

Dating of ancient civilisations and historic events has been done by archaeologists using physical remains like artefacts, monuments and structures. They analyse them using modern scientific methods and also corroborate events by relating them to other known and already established dates in other civilisations and cultures. Linguists analyse using language structures and words and attempt to fix dates and relationships based on these. Anthropology relies heavily on the excavation mode of the archaeologists to analyse human and animal remains. Modern scientific methods like carbon dating, lasers and genetic analysis are also increasingly being used in recent years. Astrologers and Astronomers use the movement of the stars and planetary phenomena described in the ancient religious and other literature to date events. Ancient Historical Traditions like religious scriptures are also analysed to arrive at dates. Each discipline usually approaches problems like dating in isolation without attempting to triangulate using the findings of the other disciplines. This may be due to the experts have spent long years in their fields of specialisation. They therefore either lack knowledge of other disciplines or believe in the superiority of their own discipline. It may also be merely because it does not strike them that another approach is possible. This monograph therefore, is an attempt to fill this gap by adopting a holistic approach to dating especially in Ancient History where complete information is still lacking. This approach yields better results than conventional uni-disciplinary analysis due to the feasibility of cross checking, validation or Triangulation to use the language of Participatory Rural Appraisal (PRA).

INTRODUCTION

"Research is to see what everybody has seen and to think what nobody has thought" (Albert Szent Gyo Rigi from Srinivasan K.R., 1988,p.1). What we think may be acceptable or otherwise, but we should not shy away from original thought. Nothing dared, nothing gained.

In dating history especially Ancient or Proto - History where there are no written records clearly giving dates we still remain in the realm of conjecture. History starts when a people use 'writing' and 'written words' and their language is deciphered. History can then be narrated cogently and chronologically. The story of the civilisation is then available. The 'archaeologist' from the artefacts dug up as material evidence of human existence at a site or a series of sites makes out a story by informed guesses or conjectures. As the Fermat conjecture had to be proved in Mathematics, these conjectures have to be proved by more evidence from other branches of knowledge.

So far in dating, we have accepted only the dates and theories of history some of which are conjectures given mainly by Archaeologists, especially in India. Each branch of knowledge like Archaeology (including Marine Archaeology), scientific techniques of Independent Dating, Comparative Philology and Linguistic Palaeontology (Linguistics), Anthropology-Physical Anthropology & Cultural Anthropology, Genetics, Ancient Historical Tradition (like Epics), Astrology, Astronomy and Historical Records (including Epigraphy) should be used to date events.

In this century, dating has moved from the field of Arts i.e. History to Science. Modern Science aids all these disciplines by its techniques for dating of events especially when correlation with other known events is not available. Even when they are available, these methods are still used to check results. Conclusions of historians are formulated or triangulated using Lasers for analysis of genes, Seismic Profiling, Magnetic Imaging and Sonar. Photogrammetry is used to get views of objects or structures from afar. Carbon–14, Thermo - Luminescence, Potassium-Argon, Amino-Acid, Dendro – Chronology, Skeletal Biology, Pollen Analysis etc., are some of the dating methods used when dates have to be fixed independently. These methods are examined and used in this work at appropriate places to date events and validate established dates in accordance with the holistic approach advocated by this writer. The use of Astrology and Astronomy to triangulate dates or use them as a reliable input for dating is a unique feature of this work.

Each discipline involves years of laborious study and has its own methods of analysis. The professionals of each of these disciplines specialise in their own methods. They therefore tend to ignore the methods of other branches of knowledge and come to conclusions in isolation. This is the classical Specialist versus Generalist syndrome. Koontz & O'Donnel (1972, p.55), the management gurus put it succinctly when they say, " A specialist knows more and more of less and less, while a generalist knows less and less about more and more". Ultimately too much specialisation tends to miss the wood for the individual tree.

Another problem with professionals is what Chambers calls 'Normal Learning' i.e. the body of knowledge that has been developed over the years in that discipline. They cannot easily accept new ideas, which question the ideas or theories that they have been taught or accepted over the years. This ignores the reality that other people might know better, though they are not professionals. Participatory Rural Appraisal professionals call this Indigenous Technical Knowledge (Chambers R., 1995, p.33). We have all heard of the story of the 'Emperor's new clothes'. This illustrates that a fresh appraisal of even existing knowledge might lead to new facts and theories, upsetting what is existing settled knowledge.

In this monograph, this writer attempts to use all the disciplines listed above in a holistic manner to get a whole view or integrated 'big' picture. This results in certain new conclusions and also some existing theories which have been marginalised are validated. Holistic approach has been used in medicine when several systems are integrated to cure

ailments where there is no cure in a single system. This synergy results in positive results. It is hoped that the adoption of a similar approach to Dating events in history will lead to similar new knowledge. This is more appropriate in Ancient History where the historian has not been able to decipher using any language and reconstruction of events is based on informed conjecture.

PROBLEMS OF DATES IN ANCIENT HISTORY

Ancient Indian history especially suffers from the problem of lack of an agreed deciphered language and therefore settled dates. This problem exists with ancient Egypt, the Incas and other ancient civilisations. The dates given by Archaeologists varies as new finds keep coming up, pushing the findings regarding the period of the civilisation concerned further back. Srinivasan contends that according to cryptographic theory, the Harappan script can be deciphered only if one can reduce it to some known language (Srinivasan K.R., 1988,p.1). The 'script' still remains unknown. Thus the culture still remains in the realm of Proto-History and can enter the realm of History only when their 'writing' or 'record' is deciphered and the message they communicate is intelligible to all sections of scholars.

There is no counterpart to the *Rosetta Stone* discovered by Bouchard in 1799 AD, which contained the same message in Greek, Egyptian Hieroglyphs and another language in the Indus Valley settlements discovered so far.

Several historians like I. Mahadevan, Ojha, Mathivanan and scientists claim to have deciphered the Indus Valley script. Dr. N.S.Rajaram claims to have deciphered a script even more ancient to the Indus script by computer simulation, which he feels belongs to the world's most ancient civilisation {Rajaram N.S., 2000(1), p.121}.

The Vedic-Epic culture or pre-Jaina and pre-Buddhist times remains an enigma equally (Srinivasan K.R., 1988,p.2). This confusion regarding dates appears to extend till the time of the Gupta dynasty in North India (Ramachandran V.G., 1998, p.46).

This is because history is viewed through the eyes of foreigners and all the writings made by them are taken as authentic without attempting to sift even subjective or spatial bias. Right from Megasthenes to Sir Mortimer Wheeler the views of foreign writers are given credence while in the case of our own writers, exaggeration is ascribed. Swami Vivekananda stresses reliance on our writers and use of Astrology and Astronomy as the national method of historical research. (Sakhyananda, 1998, p. 23). The history that we have been handed down is the result of efforts of writers with diverse motivations.

For example, the British wanted to rule India by their famous 'Divide et Impera' (Divide and Rule) strategy. They formulated theories like the Aryan and the so called Dravidian races in India in pursuance of this strategy. There is no reference to a So called Dravidian

race in any ancient book, Indian or foreign. The word Dravidian came into political usage only after 1800 AD (Ramachandran V.G., 1998, p 47).

They invented the theory that the Aryans (wise people) came into India only about 1500 BC. It was, therefore, easy to create a new hypothesis that the Ramayana and the Mahabharata are fictions that was written during the early Christian era. Rama, Krishna, Vedavyasa and Sankara therefore became mythological persons, and not historical personages (Ramachandran V.G., 1998, p. 47 – 48). Adi Sankara, therefore, had to be born in the 7th century AD to validate this thesis, regardless of the dates that can be easily deduced from his horoscope and its cross verification with astronomical data. There is other evidence from Scriptures, Historical Records etc to triangulate the astrological cum astronomical date.

European scholars in the medieval ages, starting with Filippo Sessetti in 1583 AD and culminating in Sir William Jones in 1786 AD, found that some Sanskrit words had similarities to some of the words in European languages (Talageri Shrikant G., 1998, p. 231).

Therefore, the Aryan theory was started. The young German scholar Friedrich Max Muller (1823 AD – 1900 AD) in Oxford, about 1853 AD, introduced into the English language the term Aryan as applied to a large group of languages. He wrote to his wife in 1866 AD, that in translating "the (Rig Veda) is the root of their religion and to show them what the root is, I feel sure, is the only way of uprooting all that has sprung from it during the last three thousand years". Two years later, he also wrote to the Duke of Argyle, then acting Secretary of State of India, "The ancient religion of India is doomed". However, toward the end of his life, Max Muller recanted and became a follower of Vedanta. He repudiated all his earlier writing including the dates {Dr. Rajaram N.S., 2000(1), p.118-119}. In Germany, the idea of the 'Aryan' race found no more scientific support than in England. However, Hitler used it with disastrous consequences to the world.

The systematic efforts to castigate the ancient Indian civilisation can be seen from the efforts of UNESCO to categorise the Rig Veda as an "epic of the destruction of one of the great cultures of the ancient world"(Woolley L., from Talageri Shrikant G., 1998, p. 232).

A recent visitor to the Chennai Museum, Mr. Naman P. Ahuja, a research Scholar of the School of African and Oriental Studies, London stated that the Aryan invasion theory had been abandoned in U.K. now. Mr. James Hancock, the producer of the Discovery Channel programme 'The Lost Civilisation' states that re-appraising the Pyramid of Gizah and the Sphinx in Egypt by astronomical methods and relating it to the archaeological evidence has pushed back the conventional dating of circa 4500 BC to around 10500 BC. Sir Mortimer Wheeler himself says that he 'light-heartedly' stated that Indra and the Aryans were the cause of destruction of Indus Valley cities, but he goes on to state that no single

cause can be ascribed (1966, p.73). This shows that continuous reappraisal in the light of new facts and knowledge is needed to be done in India as is being done abroad.

All this points to the need for a reassessment of our past and the dates in the light of modern methods of analysis in a dispassionate and objective manner using a holistic approach.

METHODS OF DATING IN HISTORY

Till recently, Historians used the following four disciplines to date events in history:

I. Linguistics - Comparative Philology & Linguistic Palaeontology
II. Anthropology- Physical Anthropology & Cultural anthropology
III. Ancient Historical Tradition
IV. Archaeology (Pandya A.V. 1957, Hindi Section, p.5).

This writer has added three more viz. : -

V. Scientific Methods of Independent Dating
VI. Astrology and Astronomy
VII. Historical Records

SCIENTIFIC METHODS OF INDEPENDENT DATING

Usually, events are dated by relating them to other known and already established events in History and Archaeology.

We start with this method which is more reliable than the older methods which rely on cross comparison of features of artefacts or layers of strata of earth with other already known dates to date events. This method does not rely on others but stands alone in dating events or artefacts independently.

Stratigraphy is used in relative **dating.** The archaeologist observes the successive layers in the site and then establishes the chronology of different levels of layers relative to each other. In the excavation of a great site like Ur or Troy the relative chronology of the various levels of occupation is first to be established (Encyclopaedia Britannica, 1999). But even in properly observed and recorded stratigraphic levels there is often doubt. Can it be said that all the artefacts and human remains found in the same level are contemporary? Is it possible that there could have been later intrusions that have become difficult to distinguish?

Relational Dating of events is done by relating the event to other known events in the same or other civilisations. Independent dating is done usually when Relational dating is

not feasible. Now, however, they have assumed greater importance. The methods of independent dating are Carbon – 14, Thermo - Luminescence, Potassium-Argon, Amino-Acid, Dendro – Chronology, Skeletal Biology, Pollen Analysis etc. These are used at appropriate places in this paper as already stated above. They are explained in brief below.

The analysis of the ***Fluorine*** content of ***bones*** has been very helpful in cases where there are doubts sown in the mind as above due to contamination. If bones in apparently the same geological or archaeological level have markedly different fluorine content, then it is clear that there must be interference - for example, by a later burial, or by deliberate planting of faked remains, as happened in the case of the Piltdown 'Man' hoax in England (Encyclopaedia Britannica, 1999).

Non human absolute chronology was called ***Geochronology*** by Baron Gerard De Geer, its Swedish inventor. This method was based on counting the thin layers of *clay left behind* by the melting glaciers when the European Ice Age came to an end. This gave a chronology of about 18,000 years. Thus, absolute dates could be established for artefacts from the Late Palaeolithic Period, the whole of the Mesolithic Period, or Middle Stone Age, and much of the Early Neolithic Period (Encyclopaedia Britannica, 1999).

***Carbon-14* dating** is based on decay of radio-active carbon and measuring the rate of decay to date objects against a pre-determined standard. It has been aligned with Tree rings when radiocarbon dates proved younger than archaeological dates. Now, an internationally acceptable calibration curve, which makes it possible to relate dates for archaeology throughout the world, has made possible a unified chronology. Cultures in South America, Africa and India can now be compared for age. This has pushed back the beliefs about the age of cultures. For example, the chalcolithic cultures are much older than earlier thought (Agrawal D.P. et.al., 1995, p.2). This point is made frequently throughout this work. In India, Carbon-14 dates are published. This method is based on the principle that Carbon-14 decays by 1% every 83 years, which means that in 5730 years it will be half. The outer limit is 40,110 years beyond which it is not possible to date using this method (Agrawal D.P. et.al., 1995, p.2). This method is used in the Dilji-Kot phase of dating the Indus Valley civilisation dating in the Archaeology section below. It is not proposed to go into the technicalities here. Accelerator mass spectrometry is the latest technique used for C-14 analysis. It has its own **limitations**. This radio active decay is vitiated by the nuclear tests and burning of fossil fuels. Production of C-14 is affected by location. E.g. in the lower latitudes, weaker geo-magnetic fields will result in lower C-14 production. Sample contamination is another important factor. In organic matter, there is differential rate of decay of live and dead tissue as in Tree rings. This is calibrated for error. Drainage structures have produced younger than actual dating due to contamination by percolation into ancient strata as in the Kushan period. A similar effect is found in sand dunes or porous soil (Agrawal D.P. et.al., 1995, pp.9-33). Therefore, to swear by C-14 alone is not proper, though it is a very useful technique which has removed the absurdly young age given to our culture in the 19th century as we shall see below.

Thermo - Luminescence (TL): is the light emitted in excess of glow when a non electricity conducting solid is heated. Ionisation i.e. detachment of electrons from their parent atoms occurs. The release of electrons during heating is proportional to the term of storage. This is correlated with an artificial dose for fresh sample of the same material, which serves as the standard. Age is determined as the ratio of decay of the archaeological dose to the dose rate (Agrawal D.P. et.al., 1995, pp.39-41). The problem in this method is due to large water content of the surrounding soil. As water absorbs radiation, it becomes a cause for large errors. Errors from external causes such as friction, light exposure etc also occur. TL avoids such errors in the case of pottery and is therefore often used when pottery finds are got. This has been done in Dwaraka as is seen below. But even here the potsherd is in sea water. Therefore, the reservation on the dates as deduced from TL dating, expressed by this writer below in the Marine Archaeology section on the age of Dwaraka as deduced from TL dating alone, appears valid.

Lead-210 dating is not dealt with here since it is only useful to study geological material within 100 years (Agrawal D.P. et.al., 1995, p.54). ***Palaeo - magnetic* dating** is based on the measurement of the Earth's magnetic field over time. The magnetisation acquired by rocks or fossils are studied . The approximate duration period that can be studied is 10,000 –100,000 years (Agrawal D.P. et.al., 1995, p.58).

Potassium-argon* dating** has made it possible to establish the earliest remains of man and his artefacts. In East Africa, dates go back at least 2,000,000 years, and probably further (Encyclopaedia Brittannica,1999). The principle is that of the isotopes of Potassium with mass number 40, 88% decays to stable Calcium with mass number 40 and 11.2% to Argon with mass number 40. This decay is a measure of time passed. Argon will be trapped if the mineral is at a low temperature. It is applied to rocks or minerals. Similarly, ***decay of U235, U238 and Thorium 232 are measured for radio active decay and dating (Agrawal D.P. et.al., 1995, p.68).

***Amino-Acid* dating** is used to date organisms after their death based on the ratio of alteration of amino- acids of the Levo structure in to Dextro structure (D/L ratio). D/L values are a measure of the age (Agrawal D.P. et.al., 1995, p.75).

Dendro - Chronology is the analysis of Tree-rings as each ring represents a year. This can give the age of the tree. Missing rings are reported in coniferous trees like pine due to environmental stress (Agrawal D.P. et.al., 1995, p.78). This method is dealt with below in the Marine Archaeology section while dating Dwaraka by referring to Negi & Tiwari's paper (Negi J.G. & Tiwari R.K., 1988).

Plant fossils give a clue to climatic changes as in Rajasthan where there was a green forest once, followed by saline intrusion due to sea level changes.

Pollen analysis is done since pollen is indestructible for millions of years. It is destroyed only by aerobic and alkaline conditions. For many areas, long and short pollen profiles are available. This can be used to measure climatic and vegetation changes. Holocene profiles of Rajasthan shows higher precipitation between 4000 – 6000 BP. Between 6000-13000 BP there is considerable fluctuation between wet to dry and back to wet (Agrawal D.P. et.al., 1995, p.82). The Institute of Paleo botany, Lucknow carries on this work of preparing profiles. The changes in climate as deduced from other disciplines below can be triangulated with this data. It will show the accuracy of what has been written in this monograph.

Regarding ***Archaeological*** **dating**, Agrawal D.P. et.al.(1995, p.86) agree with other writers that the West started with the Biblical date of 4004 BC and condemned anyone who disagreed. This is the cause for much of the wrong dating in the Western school as seen above and shall be shown below at appropriate places in this work.

Thus all individual techniques have their pluses and minuses. But a holistic approach will remove individual aberrations and give a correct picture.

Use of modern science in exploration and excavation

Lasers are used for analysis of genes. Material got from teeth and their infilling and bones of skulls recovered during excavation in Physical Anthropology are analysed using Lasers etc., to determine the commonality of genes from different excavations or finds or even in the same place. ***Mitochondrial DNA*** analysis is done using Lasers by researchers as we shall see in the section on Anthropology below.

In Archaeology especially Marine Archaeology, ***Seismic profiling*** gives an insight into differential terrain such as layers of soil or underwater. This is very useful to discover buried structures or cities. The bottom layers under Dilji-Kot would have been easily found out if this method had been used. Off the coast of Andhra, a sea-side civilisation is expected as shown below in the Archaeology section (Rao T.C.S., 1988, p.73). ***Sonar*** by bouncing back sound waves differentially is useful in discovering objects or buried structures under water. ***Magnetic Profiling*** also plays a complementary role on land or under water in detecting buried material different from its surroundings on land or under water, since they give a different magnetic signature. ***Photogrammetry*** is used in aerial viewing and to get multi – dimensional views to get a real image of a distant object. This is more useful for land based huge drawings or to zero in on an object slightly obscured on land or in water. Photogrammetry makes use of stereo photography in measuring dimensions and shapes of ground objects in depth, as from successive exposure pairs made during an aerial survey flight. Photogrammetric plotting instruments draw height contour curves of all features for aerial maps. Similar Photogrammetric evaluation of stereo photographs of nearby subjects can also be made. For instance, it is possible to

reconstruct accurately the scene of a highway accident (Encyclopaedia Britannica, 1999). This is used in evaluating geometrical design like the shapes of the Inca diagrams in Columbia. They are used to evaluate the underwater structures such as at Dwaraka, India or Yonaguni Island in Japan.

We will go into the methods used in each discipline, reappraise the evidence, evaluate some of the existing theories of ancient history in their light and come to conclusions using a holistic approach. This will give a more cogent version as all the pieces fall into place to produce the 'big' picture.

LINGUISTICS (COMPARATIVE PHILOLOGY - LINGUISTIC PALAEONTOLOGY)

In Comparative philology, similarities in words are analysed to trace common origins or inter connections. In Linguistic Palaeontology, tracing the linguistic roots of words (Etymological analysis) is done. Both these approaches help to date events by tracing an established event in one culture or civilisation and relating events in other cultures or civilisations to them.

LINGUISTIC PALAEONTOLOGY

The word ' Arya 'in Sanskrit means noble and never, a race. In fact, the authoritative Sanskrit lexicon (c.450 AD), the famous Amarakosha gives the following definition: 'mahakula kulinarya sabhya sajjana sadhavah'. This means 'an Arya is one who hails from a noble family, of gentle behaviour and demeanour, good-natured and of righteous conduct' {Rajaram Dr.N.S., 2000(1), p.119}.

In the Vedas, the Brahmins speak of their ancestors as the Arya and their homeland as Aryavartta, that is, the homeland of the Arya. The term 'ARYA' is applied to mean, men of high attainments in knowledge and wisdom, in culture and civilisation. The word 'AARSHA' also has the same sense as it refers to the line of enlightened, cultured rishis. Both the words are derived from the same Sanskrit root which means 'to go, to attain, to know'(Sakhyananda,1998, p 24). Hence they are used more or less synonymously in scriptural contexts. In olden days, such men of high attainments in knowledge and culture were mostly in India, the land of Rishis. So, the people of India came to be known as Aryans.

In course of time, the meaning of the word 'Arya' became confined to the higher classes of teachers and rulers (Brahmins and Kshatriyas) who were superior in wisdom and strength. The inferior or junior classes, the Vaisyas and Sudras, who formed the bulk of the society, were then considered as "Sishyas" meaning thereby the people under training to become 'aryanised' by the higher classes of teachers and rulers(Sakhyananda,1998,p 25). It must be borne in mind that Sanskrit was never spoken by the masses, but it was an elitist language of the courts and priests. Hence, Buddhism used Pali and Prakrit.

Apart from these Brahmin and Kshatriya people in India, no Aryan race has ever entered this country from anywhere outside at any time. Nowhere in the vast lore of ancient Sanskrit literature could we find the mention of such an Aryan invasion(Sakhyananda,1998,p 25). There was never a non-Aryan race of 'Dravidians' existing anywhere at any time in India's history. Sakhyananda feels that 'Dravida' refers to the local name of a particular tribe of Somakula Kshatriyas (Panchajanas) who colonised South India, long before Kaliyugadi(3102 BC). They were Aryans of a high order (Sakhyananda, 1998,p. 25).

The authority for Dravidian etymologies is almost always the work of Prof. Emeneau and Burrow, namely, 'The Dravidian Etymological Dictionary' (DED for short) which has become the standard work on the subject (Sundar Raj M., 1997, p.101).

Let us now take the Sanskrit root 'ar' of which the general and original meaning is 'plough'. Therefore, Arya could refer to ploughmen in contrast to their sheep raising robber neighbours, the 'Tura' (Pandya A.V., 1957, Hindi Section, p.3).

However, a more logical explanation appears to be forthcoming if we look for connections between Sanskrit and Tamil, the two oldest languages of India. Traditionally, they have been painted as arising from two opposing cultures of North and South India. Even an Aryan penetration in to South is talked about. But movement could be more easily explained by common sense as two way or even from South to North. The common origin of words is shown below.

We find that there is in Tamil culture (DED 190) a root 'Aru' (also variants Aru and Aru – DED'S ** 262 and 347 respectively), which in Tamil gives various cognates : such as 'Aram' and Sanskrit 'Dharma'. It seems to be beyond question that Tamil has provided the concept and the word, to Sanskrit. The etymology of 'Aram' (Sanskrit) is now clearly established (Sundar Raj M., 1998, p. 354).

'Tvastr' has been recognised as being related, etymologically to dachas and task, but beyond that, what? Etymology takes us no further. But the so called Dravidian languages have something to say. Now 'Tvastr' is a carpenter in the Rig-Veda, who constructs cars for gods, like a carpenter. The vocable 'Tvastr' can, however, find a root directly in DED 2754, where will be found a number of so called Dravidian words, meaning, 'to begin, to start, to commence'; 'tovk' comes nearest to 'Tvastr', but what has an ancient lineage in Tamil is 'Tuvakkam' or beginning. Since 'Tvastr' is the first creator of the world, Dravidian language seems to give the most apt etymology (Sundar Raj M., 1997, p. 49).

In choosing the name Martanda, the Rig Vedic people seem to have preferred Dravidian vocables to Indo-German. The name Martanda, may be split up into two parts namely 'mar' and 'tanda'-. DED provides a number of sources for 'mar', in the sense in which the word is used in the Rig Vedic text. They are: (1) DED 3897, where the Tamil word 'mara' is said to mean to 'forget, neglect, disregard etc'. (2) DED 3960 'maru', meaning

'to become changed, deny, etc', and (3) DED 3961 'marru', meaning 'to conceal, hide etc'. As for 'tanda', we have DED 2578 where Tamil 'tanda' gives 'skip, jump over, leap across etc'. The combination 'martanda' in the so called Dravidian languages gives straightaway without further elaboration 'skipped over'. Can any etymology be more faithful to the myth? (Sundar Raj M, 1997, p. 72).

JYESHTA ROHINI

Similarly 'Jyeshta Rohini' is not to be derived from Sanskrit meaning 'elder Rohini', but the first word is the So called Dravidian'Kettai' (meaning 'bad') transformed by the Sanskrit phonological system. In fact, at first in Vedic literature it is simply called Jyesta, and only later 'Rohini' has been added to the name, (vide the Vedic Index). It is perfectly logical to designate an asterism in Scorpio as 'bad' or 'Kettai'.

MULA

Similarly 'Mula' being at the tail end of Scorpio finds a perfect etymology in the Tamil 'Mulam' and 'mula' (DED 4139 and 4140) meaning 'prolapsus ani, posterior' etc and 'cornes' respectively. It may be noted that 'mula' also means a 'root'. (Sundar Raj M., 1997, p.563).

Michael Witzel who argues the linguistic case for an Aryan invasion notes that one very strong linguistic factor is that of hydronomy (river-names). While the rivers of Europe (and for that matter, America) have pre-Indo-European (i.e. "pre-Aryan") names to this day, the rivers of northern India, even in the ancient Rig Vedic Age, had purely Aryan names with no trace of any allegedly pre-Aryan elements in them. Witzel finds this circumstance galling: "This is especially surprising in the area once occupied by the Indus Civilisation where one would have expected the survival of older names, as has been the case in Europe and the Near East" (Witzel Frank, 1994 from Talageri Shrikant G., 1998, p.232).

Prof. Burrow (in his "The Sanskrit Language") demonstrates the existence of many So called Dravidian words in the Rig-Veda. Prof. Meyerhofer also has given many such examples in his monumental work entitled 'Kurzgefasstes etymologisches Wortebuch des Altindischen'. It has to be concluded that the etymological nexus between the So called Dravidian and Rig Vedic language (and obviously culture) existed even at the time of the composition of the text itself (Sundar Raj M., 1997, p. 103).

Pandya draws attention to a dynasty of kings in Mitanni (near Assyria) around 2300 BC, whose names have an Aryan etymology, and Indian deities, such as Indra and Varuna, figure prominently in its pantheon. It is thus clear that in Mitanni a population was dominated by a ruling caste of Indo-Aryans" (Gurney, O.R., 1954, p.128 from Pandya A.V.1957, Hindi Section, p.14). Conflicts between the Devas and the Asuras are the struggles between the Aryan worshippers of Surya and the Semites of Assyria, who

became subject to the kings of Mitanni (Havell, E.B., p.4 from Pandya A.V., 1957, Hindi Section, p.20). He feels that Asuras are Assyrians. A connection with Zend, the speech of the Parsis, is drawn where Arya becomes 'Ariya' (Pandya A.V., 1957, Hindi Section, p.3). He thus draws the conclusion that Aryans migrated from Assyria. The date of 2300 BC should be noted since by that time the Aryans had lived for more than 5000 years in India as we shall see below in other sections Archaeology, Anthropology etc. He concludes that the cradle of the undivided Aryans was in the North, because the words for snow and ice are common to all Aryan languages i.e. present North Indian languages. In the end, however, he concludes that the results yielded by Linguistic Palaeontology are not decisive (Pandya A.V., 1957, Hindi Section, p.22). The reference to Mitanni shows the mindset of the 'Normal' historian. This obsession with Central and West Asia is due to the unquestioning acceptance of the theory that human migration was from the Caspian Sea or Garden of Eden (Valley of Euphrates and Tigris) to the rest of Asia and Europe. This appears to rely more on the Old Testament than reality. The condemning of as 'anti-diluvial' of any other view due to intolerance is the cause of this ostrich like imperviousness to reality. Movements could easily have been towards Central Asia from India, Lemuria or Africa as we shall see in the Anthropology section. The dates in fact prove that there was a migration from India, since the dating of 2300 BC clearly post dates the Vedic, Indus and Pre-Indus civilisations as Archaeology itself shows, which we shall see in that section below in this monograph.

There has been throughout an almost constant confusion between the languages and the persons who spoke them. In many parts of the world the speaker of a particular language at a given time was not by lineal descent the representative of its speakers at an earlier period. Most educated Indians speak English, but they are not of British descent. In the island of Britain itself, many persons of Welsh blood, many persons of Irish Celtic and Scottish Celtic descent speak English. Normans who spoke French started speaking Anglo Saxon(English). The English who had settled in Ireland and learned to speak the Irish language and had become more Irish than the Irish themselves (Pandya A.V., 1957, Hindi Section, p.10). Therefore, the conclusions of Linguistic Palaeontology in the absence of other corroborative evidence i.e. Triangulation to use the methodology of Participatory Rural Appraisal are evidence of links but not of origin or causation.

COMPARATIVE PHILOLOGY

Pandya then turns to Comparative Philology to furnish proof of the Middle East origin of the Aryan tongue. He feels that of all the Aryan dialects Sanskrit and Zend can be considered to have changed the least. Hence it would appear that the region now occupied by Sanskrit and Zend must be nearest to the primitive centre of dispersion (Pandya A.V., 1957, Hindi Section, p.19). He , of course, ignores the migration of the speakers of Zend (Parsis) to India. Persian and not Zend is now spoken in Iran. If he had speculated on the time factor circa 10000-8000 BC (Rig-Veda) vis-à-vis 2300 BC, he would have concluded that the migration was westward from India.

He feels that the Assyrians are the Asuras that the Vedas describe (Pandya A.V., 1957, International Languages Section, p.41). He confuses the English phonetic sounds for the Sanskrit sound. He himself admits that Ashur –uballit I lived around 1370 BC. This is long after the Rig Vedic period. The theory shows that the limitation of the knowledge of the time period circa 1950 AD when he wrote the paper reflects in his theory. This is the point that this paper drives at that Dating with the help of one discipline will give unreliable conclusions.

The Rig-Veda (circa 10000-8000 BC) specifically mentions Sage Agastya as the master of two grammars (Sanskrit and Tamil). It also contains Tamil words Nir as Neera, Pazham as Phala etc., It is reasonable to conclude that the Tamils existed even prior to 6000 BC. This in effect leads us to the conclusion that the Tamil civilisation is certainly at least 8000-10000 years old from now (Ramachandran V.G., 1998, p. 40).

In Tholkappium (circa 8000-6000 BC) we have Sanskrit words and so also Tamil words are found in Vedic literature (Ramachandran V.G., 1998, p.103).

Tamil (Dravida) and Arya are not mutually exclusive but parts of the same whole i.e. Indian civilisation.

V. R. Ramachandra Dikshitar categorically states "........that the Bharatas, after whom the country is named, were never outside India; that the terms Aryan and Dasyu do not mean racial divergence but a cultural one; that if we are to believe the Aitreya Brahmana, most of the Dasyus were sprung from the sage Visvamitra; that there is not the slightest ground for believing that the Dasyus (who also were Bharatas) ever resided in India at a time more ancient that that of the Aryas, and neither were immigrants from abroad. The Dasyus were only religious antagonists to the Aryans. The theory of separate Aryan invasion is a string of suppositions from top to bottom. The theory-that the Dasyu-Dravidian inhabited the Punjab and the Ganges valley at the time of the so-called Aryan invasion of India, and overcome by the latter, they fled to South India and adopted it as their home-cannot stand" (1947, p.12 from Pandya A.V., 1957, Hindi Section, p.27).

Sanskrit is a refinement of Dasyam or Proto-Tamil. A group of grammarians like Panini, Vararuchi, Patanjali etc. purified and refined the language. By this amazing process of refinement (Samskara), it became popular as Samskruta or purified language (Murthy B.M.N., 1999, p. 1027). Brhaspati brought in new innovations. The new language and forms of worship of 'brhaspatiyam' was, it is clear, based on the old 'dasyam' and was a development a 'purification' as 10.71.1 of the Rig Veda puts it-of the old, and the principal innovations lay, according to the same passage, in words and language itself (Sundar Raj M., 1997, p.347). Some elements of the old language 'dasyam' are preserved in the old Proto-Tamil itself. The word Tamil 'Sangam' itself shows that Sanskrit adopted 'Sangam' into its vocabulary.

Any language, which grows always, borrows as English is doing now and has done in the past. Only dead languages do not borrow. Therefore, purity beyond a point as in Genetics leads to inbreeding leading to disappearance of the species itself. Sumerians being called 'Some-Aryans' of India is a similar play on words to show two-way causation is possible and not one-way alone from Central Asia to India as in conventional theory. It is the mindset produced by years of conditioning through 'Normal Learning' that makes the mind impervious to alternative ideas.

Rev. Father Heras states 'The Harappa Culture started in the very dim past (about 5000 BC) *from the Cauvery basin* and advanced along with the west coast to Kathiawar, Sind and the Punjab and then moved to the near East and Mediterranean under the sponsorship of the redoubtable Tamils' (Ramachandran V.G., 1998, p. 104). Therefore, even in the 19th century AD there were scholars even foreign ones who did not subscribe to the then fashionable and prevalent theories of the origin of Indian civilisation.

Erdosy notes that the theory of Aryan invasion or immigration is the subject of investigation by two distinct academic disciplines, archaeology and linguistics, and that "the idea has recently been challenged by archaeologists who – along with linguists – are best qualified to evaluate its validity". It is clear that reliance on Linguistics to prove dates or theories will lead to erroneous conclusions due to contamination with subsequent linguistic mixtures or borrowing of words from other languages. It is difficult to hold *Ceteris* as *Paribus*. Linguistics can at best point to connections but cannot point to origin or causation except in conjunction with other disciplines. Corroboration or triangulation to use PRA language is essential to arrive at conclusions on dates or causality. This makes us to move on to other disciplines, which we shall consider below, to validate dates, rather than stick to a single discipline.

ANTHROPOLOGY- PHYSICAL ANTHROPOLOGY & CULTURAL ANTHROPOLOGY, GENETICS ETC.

Anthropology is the study of the human species. It is important especially in pre-history where written records, agreed dates and theories are absent. It is able to speculate with a great deal of authority on what exactly happened at that remote period of time. Physical anthropology is used to date the story of man from skulls, bones and reconstruction of whole skeletons i.e. the study of the physical features. The difference between the Hominid, Homo Neanderthalis and Homo Sapiens is based on the dimensions of the skull to a large extent. The study of habits, social customs etc., comes under the purview of Cultural Anthropology.

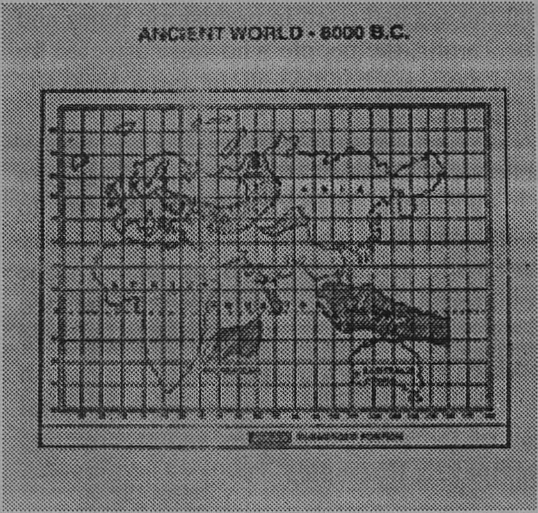
All human history is the history of migration. Homo Sapiens survived only because of migration leading to better food gathering. This led to rapid multiplication of the species. Survival of the older people was made possible due to the food surplus. This also gave the leisure to be able to look after them. This made for transmission of the knowledge and wisdom of the older people. This ensured their survival in crises like drought, flood,

epidemics etc. Homo Neanderthalis who were static became extinct as they had no food security. This is an example of the use of Cultural Anthropology.

Many attempts have been made to guess precisely how South America, Africa, India, Antarctica and Australia were once joined to form the primitive content known as Gondwana land. There is as yet no general agreement, as to how this should be done. The fit between South America and Africa, as is well known, is excellent. The fit between Australia and Antarctica is good. The arrangement of all five major units, however, is controversial and the original position of Madagascar is unknown (Meckenzie D. P. et.al., 1998, p. 10).

There is general agreement, however, that Lemuria is the cradle of civilisation. Several European scholars feel as follows:

(a) Prof. Heckal in 'History of Creation' feels that Lemuria (Gondwana land) was the Cradle of human race.
(b) Prof. Raleigh in his 'History of the World' says 'After the great deluge, Indian human race first appeared'.
(c) Topinard opines 'South India was the most ancient part of South Asia'.
(d) Sir Johan Ewans, President of the British Association (1897) states 'Man had his origin and development only in South India'.



Picture no. 1. (Sampath Iyengar G.S., 1988)

Scott Elliot in his book 'Lost Lemuria' observes 'The most ancient civilisation of man was in South India – an extension of which was the submerged land of Lemuria' (Ramachandran V.G., 1998,p, 104).

The Discovery Channel in its programme on the 'Origin of Man' portrays the use of **Genetics** to analyse Homo Sapiens and Homo Neanderthalis. It has analysed skeletal remains in Ogdelena cave in Spain and has come to the conclusion that Homo Sapiens originated in Africa and has no connection with the European Homo Neanderthalis. In this cave at one layer Homo Neanderthalis skeletons and in another part Homo Sapien skeletons are found. This analysis uses ***Skeletal Biology*** to show the larger skull size of Homo Neanderthalis. The time period is also overlapping, but genetic analysis shows no commonality. Why they did not intermarry is a million - dollar question. Neanderthalis as a species died out on the Mediterranean Sea. The volcanic

footprints on lava in Ethiopia around 30,000 years ago have been analysed and found to be of Homo Sapiens. There are skulls of Homo Sapiens in Dakar cave in Israel. This shows that a branch migrated to Europe and Asia. Another branch migrated via South Africa, Madagascar, and Sumatra to Australia. They must have used the land bridge now submerged in Lemuria. They might have also used small boats for limited distances. A branch might have migrated to the Middle East by sea and the West Coast of India by land and sea. Bruce Foote analysing the Adichanallur collections of skulls and bones postulates that the aborigines of Australia and New Zealand are of the same race as the South Indians (Foote Bruce, 1901).

It is prognosticated that the continent of Lemuria, which was connected with Asia and Africa, began to sink slightly, becoming much smaller in size. About 25,000 – 30000 years ago, important changes took place as a result of which the continent of Atlantis rose and it separated from Europe and Africa. The continent of Lemuria, which was sinking in the western portion, forced the people to migrate to Asia, Australia and the lands of the Pacific. Atlantis was colonised by the Lemurians and they had spread again to North and South America. Therefore, the Nile Valley settlers on the shores of the Red Sea who founded the great Egyptian civilisation could be Lemurians. The Lemurians, who colonised the Nile Valley, developed agriculture, ship-building, commerce, writing and mathematics. They further established the Babylonian and Assyrian Civilisation (Sampath Iyengar, G.S., 1998, p.27 – 28). (See Picture No. 2 on p.59)

E. L.Thambimuthu, a scholar of Jaffna, feels that the sea had risen in prehistoric times and separated India from Ceylon. The tradition of the Tamils, the people who were affected by the event must be given credence. Though several dates are bandied about, circa 5400 BC is stressed by him (Sampath Iyengar, G.S., 1998, p.30).

Encyclopaedia Britannica writes that the biochemical systems of Asian and European populations appear to be more similar to each other than those of either group are to African populations; thus, Asians and Europeans may have shared a common ancestry some 40,000 years ago and a common ancestry with African populations almost three times as long ago. Moreover, investigations of human Mitochondrial DNA reveal two facts: that the variation among modern human populations is small compared, for example, with that between apes and monkeys, which points to the recent nature of human origin; and that there is a distinction between African and other human Mitochondrial DNA types, suggesting the substantial antiquity of the African peoples and the relative recent nature of other human populations (Encyclopaedia Britannica, 1999).

This is the Aryan separateness cum superiority theory bolstered by scientific language. This is contradicted by recent studies.. Supporting the continental drift theory, a recent study on genetic origins on the DNA of the Chinese suggests that the core Chinese population has genetic similarities to genetic material uncovered in Africa, leading some to infer that the populations of China and much of Asia (including India) might be the result of population dispersal originating from what is now areas in present-day Africa

(See Picture No.3 on p.60). These recent genetic findings add further support to the existence of a very ancient India (Levacy William R.,1999 p.98). The genetic analysis by Los Angeles University shown in National Geographic Channel shows that the genetic differentiation from apes to hominids started 5 million years ago. The genetic analysis shows that beneath the skin the entire human race has the same make up. Analysis of Mitochondrial DNA (the energy DNA) which is traced through females only shows that a single lady is our ancestor. This DNA is not affected by changes during transmission. Is this why the concept of Shakti is related to women in our tradition or Adam and Eve in the Old Testament common to Judaism, Islam and Christianity, the other major religions of the world? The genetic composition of Western European and Indian population is compared in articles in the British Journal *Current Biology* by T.R. Disotell and T.Kivisild. They observe that the Mitochondrial DNA of the Western European strain is found only in about 5.2% of the Indian population as against 70% of the European population. The proportion is roughly the same in North and South India which gives the lie to the theory that North Indians are somehow more Aryan than South Indians{Rajaram N.S., 2000(2)}. This shows that the Aryans coming about 1500 BC which is the date given by Sir John Marshall and Sir Mortimer Wheeler originally in the late 19th and first half of 20th century is incorrect. The split must have occurred at least 50,000 years ago. Genetics clearly contradicts the theory of recent Aryan influx and also the dates by several thousand years.

Anthropology plays a key role in authenticating or invalidating findings of theories floated by historians who rely on any one discipline like Archaeology. It should also be used in a multi-disciplinary approach in an integrated or holistic manner if the truth is to be arrived at. Some of the findings of Anthropology are reflected in Ancient Historical Tradition in a direct form or sometimes in allegorical or mutated form.

ANCIENT HISTORICAL TRADITION

Tamil literature talks of a Meru Mountain in Lemuria. Among the most prominent of the mountains was the Mani Malai (Meru) where precious stones like rubies were mined. This Meru Mountain produced gold and this gave rise to an ancient proverb ' *Meruvai Cherntha Kakamum Ponnam*'(Even the crow in Meru is of Gold). The Meru Mountain had 49 peaks and by its side flowed the Peru Aru on either side of two other rivers, the Kumari and Pahroli (Sampath Iyengar, G.S., 1998, p.32).

The Snake Vakya Panchangam used by Tamilians refers to rain bearing clouds gathering from Meru. This is valid only if it is in the Indian Ocean, since the Caucasus Mountains have nothing to do with our monsoon. Whatever clouds gather there will be prevented by the Hindukush range of the Himalayas from entering India. Therefore, this theory of Lemuria and interconnection among races., their migration through boats as well as land, finds support from various unconnected sources, finds and their analysts.

It is claimed that Pandyan kings ruled from 30,000 BC to 16,500 BC i.e. for about 13,500 years. It is said that Negroes from Africa invaded this Tamil kingdom and controlled it for 500 years. Kumaravelu is claimed as the legendary hero of the Tamil kingdom who defeated the Negro King, Surapadman (Sampath Iyengar, G.S., 1998, p.32). He is also the God Muruga of the Tamils and Deva Senapati or Commander of Chief of the armies of the Devas in the Sanskritised version. The same role in both language traditions shows that Tamil and Sanskrit are two faces of the same coin. These are claims in Tamil literature to be triangulated by sources from other disciplines before they can be accepted.

It is also claimed that the descendants of the Lemurians settled in Mt. Shasta, in California and established a colony. Larkin, a scientist who investigated the colony, had concluded that they are the remnants of the Lemurians (Sampath Iyengar, G.S., 1998, p.32).

These facts indicate that the continent of Lemuria was the home and origin of a great civilisation. Lemurians migrated west when portions of their land began to submerge. Their migrations led them to Egypt, other Mediterranean countries, India and Mesopotamia where they established great civilisations. One theory holds that after the lapse of several centuries, they entered India. Western scholars like Max Mueller were misled into believing them to be of a separate race. Lemuria holds the key to unravelling the mystery of the origin of the so-called Aryans. Another theory holds that they travelled to India and from there to West Asia after establishing the great Vedic Indian civilisation. At any rate there was continuous human migration in several directions so that one fixed date or direction is an absurdity.

It is claimed on evidence that the ancient Cholas discovered South America, long before Columbus did it and that the Inca Sun Worshippers of Peru are the descendants of 'our Chola ancestor' (vide Neelakanta Sastri K.A., 1984, and M. Monohan's, 'Cholas in America, 1976' – pp.11-20 from Ramachandran V.G., 1998, p.35). The Incas have their Temple of the Sun God in Cizo (Peru) which resembles the one in Konarak in Orissa built by the descendants of the Cholas. The Chola Chieftains (Incas) of America styled themselves as 'Raghukula Manickam'. This shows that they belonged to the Raghuvamsa of Sri Rama whose ancestor Sibi Chakravarthi is also described in ancient Tamil literature as the Chola king Sembian. This takes us to an inference that the ancestors of Dasaratha are also the ancestors of the Tamils. One other ancestor of Sri Rama, Mussu Kunthan, is believed to be the Musa Kuntha Chola described in ancient Tamil History. Musa Kunthan's reign was during the second Tamil Sangam age 4800-2800 BC. The Matsya and Vishnupurana refer to Sri Rama as belonging to the Tamil Clan of Cholas who in fact belonged to the Surya Kula dynasty. It is claimed that Sri Rama knew both Tamil and Sanskrit and so could understand easily Hanuman's Tamil conversation (Ramachandran V.G.,1998,p.36). All this adds strength to our theory that the two-race theory is based on confusion of dates and events being advanced or postponed according to convenience to fit in with that theory.

Alexander Kondratov, the Russian Researcher, in his epoch-making book, "The Riddle of Three Oceans", has observed as follows: Near the City of Trincomalee, in the warm waters that wash Ceylon, divers have found sunken monuments of various civilisations. It is quite possible that under-water archaeologists may discover the capital of the Proto-Indian Civilisation (Mahalingam Dr.N., 1998, p. 379).

Even when writing around 1950s, Pandya felt that Indra's destruction of the 'fortified towns of the Asuras' has nothing to do with the end of the Harappa Culture (Pandya A.V., 1957, International Languages Section, p.57). He quotes the Director, School of Oriental & African Studies, London University, "When Indo-European tribes first reached India is not known, their oldest records, the Rig Veda throw no light on their arrival or the fate of the early Indus-Valley (Harappa etc.) culture. Nor do they contain memories of the western connections of the tribes. The tribes, who called themselves Aryas, were organised in compact family units under the leadership of warrior-priest-fathers. They kept cattle, cultivated a cereal, probably barley, wove cloth, tanned hides, worked some metals, and lived in villages called 'cattle pens'. The Rig Veda, which contains no record of their crossing the Indus River, describes them as holding north-western India from the Kabul valley to the Saraswati River—the land of 'the five rivers', now usually called the Punjab" (Pandya A.V., 1957, Hindi section, p.33).

The Rig Vedic Rudra of the Arya corresponds to the Lord Siva of the Tamils. The so called Aryan invasion of India in 1500 BC is false. The Aryans were always in India from a period earlier to Rig Veda times (6500 BC) (Ramachandran V.G., 1998, p.37). During 7500 to 7000 BC, the Aryan Culture and the Aryan way of life was established all over Bharat (Prof. K. R. Srinivasa Raghavan, 'Chronology Of Ancient India' from RamachandranV.G.,1998,p.38). This writer would take the Rig Vedic period to circa 10000-8000 BC when the Sapta Rishi Era started as per Astronomy.

The near simultaneous collapse of the far-flung Harappan Empire, the Sumerian-Akkadian Empire in Mesopotamia and Dynastic Egypt was due to deteriorating ecology, in particular a 300-year drought that struck across an immense belt from the Aegean to India in 2200-1900 BC. This is also confirmed by Pollen analysis in Rajasthan as seen above. This view is also held by Dr. N.S. Rajaram (1999, p.59) based on the work of D. Prithipaul of University of Alberta. Archaeological work in Egypt, Mesopotamia, India and Pakistan by Indian, Belgian, American and French investigators are revealing ecological causes. The Aryan invasion theory, the dates of Indus Valley and Indian civilisation need to be revised in the light of new knowledge and data from other disciplines. There has been continuous settlement from circa 11000 BC in India. Therefore, the Aryan invasion of 1500-1000 BC as was taught to us in the light of the work of the 19th century archaeologists and historians needs to be revised. . The conventional view of history of Sir John Marshall and Sir Mortimer Wheeler talks of an Aryan invasion around 1500 BC. Indra, the Aryan God of War is portrayed as the cause of destruction of the Indus cities. This theory which held sway till circa 1970 AD is being

increasingly questioned on sound archaeological and other evidence generated from fresh excavations at lower levels and the use of knowledge from other disciplines and sources such as Pollen analysis, C-14 dating etc., seen above. The scriptures and epics such as Ramayana and Mahabharata contain data on dates correlated with astrological and astronomical phenomena, which are corroborated by scientific dating methods. These sources were hitherto discarded by European writers as they were Indigenous Knowledge. Now, Chambers by use of the PRA method has sanctified them. Hence, we too are happy to use them.

B. and R. Allchin feel that some of the South Indian grave types "are reminiscent of those of Central Asia, Iran or the Caucasus, and could well represent traits brought from these areas by Indo—European speaking immigrants"(1968, p.229). The archaeological evidence suggests that cremation might have come to be the dominant way of disposing of the dead in North India already in post-Harappan times, for no burials within the settlements any more than in separate burial grounds have been encountered, with the exception of the 'megalithic' graves of the extreme North West (Allchin B. and R, 1968: p.316). Although cremation must have been the normal practice in the Rig Veda period, there are references, which seem to attest that burial too was practised (Parpola Asko, 1973, p.28 - 29). Heesterman concludes: "The Vratyas are authentic Vedic Aryans..."(Parpola Asko, 1973, p. 34).

This writer had occasion to see the megaliths in Pudukottai district on the outskirts of the famous Chittannvasal cave paintings. There were several of them. They resemble Stonehenge and Outer Hebrides circular stone arrangements, which also this writer has visited and studied, in a remarkable manner. There was no sextant available. But there was a distinct feeling that they pointed at a particular star. Unlike in U.K. no one has done research on this aspect. They are found related to astronomical phenomena, which we shall see below in that section. If the same megalithic culture had pervaded through out the world, this gives credence to the theory of Hancock that there was indeed a superior maritime culture at that point of time and they had a universal impact on human thought and culture.

The Rig Veda refers to the war among 10 kings. There was continuous sporadic war among the Surya Vamsa Kings and the Chandra Vamsa kings because of their land hunger. Around 7200 BC, the Battle of the 10 Kings described in the Rig Veda was fought (Ramachandran V.G., 1998, p.38).

Prof. K. R. Srinivasa Raghavan claims that the eighteen clans of Yadhavas became the early settlers the 18 clan settlers who sailed from Dwaraka to colonise the River Pahruli area. The Tamils thus grew in population and formed their own Governments. Their land was originally 'Tamilagam', but after the deluge, they hastened to the Cauvery basin and settled in the area from 'Vengadam to Kumari' (Cape Comorin) (Ramachandran V.G., 1998, p.39).

Dr. B.K. Mukerjee in his treatise on 'Hindu civilisation' (Page. 153) states 'Indian tradition knows of no Aryan invasion from the North-East or from outside India. On the other hand, it speaks of an Aila (Aryan) outflow, the expansion of Drihyus to the north-eastern countries too' (Ramachandran V.G., 1998, p 105).

The Zend Avesta of Parsees is far later in origin than Rig Veda and concentrates on the one Sun God. Parsees are anti Soma-Yagna and anti-Indra. Zend-Avesta also refers to a Dasavathar of different type. All these show that Parsees are Indian Arya rebels (Ramachandran V.G., 1998, p. 105). Ahura (Asura) for Parsees is good while for Aryans it is evil. It is a Protestant faith to Hinduism.

Therefore, all our ancient scriptures Ramayana, Mahabharata, Vedas, ancient Tamil Sangam literature etc have to be critically examined to find out whether it is really poetic imagination or reality. To dismiss them wholesale as was done in the past is unfortunate. We have a considerable corpus of literature, noted for its profundity, quantity and quality, but 'unwritten' since it was not written for a long time. Hence the Vedas and Vedangas are called in our ancient Tamil *Elida-K-Kilavi*. It has come to us, yet, to the present day through millennia, in the same form, by word of mouth-transmitted from generation to generation by recitation, according to set norms, caught by the ear of the disciple, committed by him to memory, to be transmitted again by vocal recitation, hence called *Vaymoli* in ancient Tamil. Since the organ used is the ear and not the eye as in 'reading' it becomes *Sruti* and since it is committed to memory *Smriti* in Sanskrit. Its purity has been preserved through the centuries by an ingenious and unalterable system of 'notation', intonation (svara), pause, meter and the like. Such transmission from mouth to ear and memory was not mere rote. There was reflection on the matter and content and development of further thought by way of commentaries or '*Bhashyas*'.

The protagonists of the conventional view of history are perplexed by the phenomenon of a people who have a highly developed literature that is able to tell us much about the high civilisation and ethos of the early Aryans of India, but whose material remains such as structures, artefacts and the like are too scarce. Here we have a unique case of people who are very 'Vocal' and hence 'audible' but who have left no written records. This literature, of an outstandingly oral tradition, if taken as 'record' will tend more to push the people into the realms of 'History' than oblige us to retain them within the realms of 'Proto-History'.(Srinivasan K.R., 1988, p.3). What they fail to appreciate is that they are looking for a non existent separate race called Aryans. This is like looking for the Emperor's New Clothes.

Where the Arya-Dasa (and Dasyu) conflict, and the associated question of the relation between Asuras and Devas are studied, it is found that three traditions, differing in language, concepts regarding nature and powers presiding over them, modes of worship, social organisation and laws have been brought together in the Rig Veda, the people concerned in chronological order being Dasyus, Dasas and Aryas. The most traumatic

changes have been effected by the Aryans under the tutelage of Brhaspati(Sundar Raj M., 1997, p.425). This conflict is not unlike the conflict prevalent even today in our villages about the first Maryada or honour in temple festivals among members of different castes or even different branches of the same family.

When *Silappadhikaram* talks of an ancient port *Poompuhar*, there is indeed an ancient port on ground as discovered by excavation. There are anklets found in excavations of a type similar to what the epic describes kept in the museum at the site. An anklet has been donated to the Government Museum, Chennai as found in Kerala, which is of a similar variety. Why should other parts of the epic in which Kumari Kandam or Lemuria is described be alone imagination?

Therefore, our Ancient Historical Tradition like our Puranas are now being examined as sources of history and deserve to be given credence and not dismissed outright as mere figments of imagination.

ARCHAEOLOGY

This is the main discipline relied upon to date events. It usually relies on cross cultural corroboration i.e. Triangulation of events with other known events in other cultures or civilisations. In recent years, it has also started relying on modern scientific techniques to date events independently.

Picture No. 4. Pre Indus Potsherds
(Wheeler, 1966)

Sir Mortimer Wheeler builds up a picture of a migration that occurred in the middle of the third millennium BC. He feels that ideas, which had been developed in Mesopotamia fertilised certain of the lively but limited chalcolithic communities of the Baluch – Indus border land and produced the seemingly sudden flowering of phase I of Indian civilisation of the Indus valley. By the end of the millennium the Indus Civilisation was dominating the western coastlands from Makran in the north to the Gulf of Cambay and the Narbada–Kim estuaries far to the south, either by spontaneous expansion or under pressures (commercial or other) which cannot be closely defined. Certainly well before the middle of the second millennium (about 1700 BC) internal decay, stimulated perhaps by geomorphological changes and periodical flooding had set in, and had

prepared the way – at least at Mohenjo-daro – for a violent end by raiders of one sort or another. Whether these raiders were the nomadic Aryans whose inroads into the Punjab are reflected in the Vedic hymns is a matter for conjecture, but a certain parallelism between their recorded exploits and the archaeological evidence can be adduced (Wheeler Sir Mortimer, 1966, p.133).

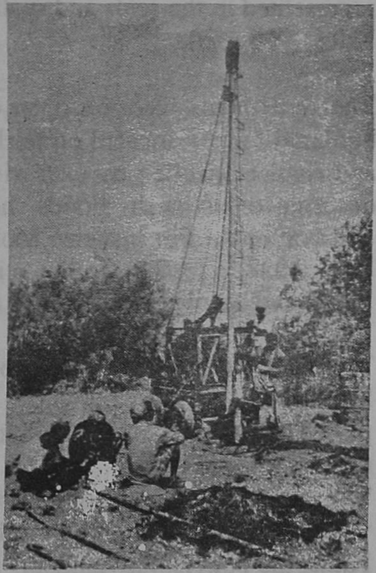
This picture is found to be based on conjecture with outdated facts and the knowledge prevalent at that time, as we have seen above and shall see below. Subjective bias also operated as already seen above in his having to uphold his earlier Aryan invasion theory and dates.

Pre-Indus Cultures:

The first is Amri, 100 miles south of Mohenjo-daro in Sind. There, over an area of some 20 acres, are mounds formerly continuous but long divided and eroded by floods from the adjacent Indus. The importance of the site as containing a Harappan (Indus Valley) culture super-imposed upon an earlier, so called 'Amri', culture was recognised in 1929 and led to intensive excavation by J. M. Casal in 1959 – 62. (See Picture No.5) Both cultures were Chalcolithic (Wheeler Sir Mortimer, 1966, p.54 – 55).

The better and more characteristic wares are of buff, cream or pink colour, usually with a plain band of reddish brown at the neck and with a geometric design in black or chocolate giving a polychromatic effect to the whole (Wheeler Sir Mortimer, 1966, p.55).

The third site is very interesting for the archaeologist. At Kot Dilji, 25 miles north –east of Mohenjo-daro, exploration by F.A. Khan has revealed a fortified village – or small town with a fortified citadel – beneath an open Indus settlement. The site showed sixteen layers of occupation of which the last three were typical of the Indus civilisation, the 4th was 'mixed ', and the remainder represented an antecedent culture that has been called specifically 'Kot Diljian'. Based on a 'half life' of 5730 years, the Carbon – 14 dating for a late Kot Diljian stratum (4 A from the top) is understood to be 2100 BC±140 years, and for Layer 14 (the lowest but two) 2600 BC±45 years .The late date for Kot Diljian 4 A immediately prior to full Harappan, if verified by further samples, certainly implies that the Kot Diljian culture continued long after the first arrival of the Harappan or Indus Valley Culture in the vicinity (Wheeler Sir Mortimer, 1966, p.58). At the bottom layers, there is waterlogging. Exploration at lower levels



Picture No. 6. Drilling at Mohen-jo-Daro 1965 A.D (Wheeler, 1966)

is hampered due to this. The lowest level has still not been reached. Then only we will get the full picture. Wheeler writes that the report that Indus pottery has been found under the ancient metropolis of Kaushambi, much lower down the Yamuna, is not confirmed , but a fringe of Indus or sub – Indus sites must now be expected on the northern plains. He admits that within the past dozen years from the date of his writing the pattern of the Indus Civilisation has been materially enlarged and significantly changed (Wheeler Sir Mortimer, 1966, p.63).

In central India, two scraps of evidence with a possible bearing upon an inter regional linkage between the Saurashtrian 'Indus' and Central India may be mentioned . The microlithic blade industries which characterised central India in and before the earlier half of the first millennium BC sometimes include parallel sided blades of a more formidable type, comparable with the chert blades of the Indus valley and Baluchistan. At Maski in Andhra Pradesh, for example, they run to more than 5 inches in length. Apart altogether from the fortuitous availability of material, it is difficult not to suppose that we have here a genuine intrusion from the Northwest, no doubt through Saurashtra. The flat copper axes, which occur on chalcolithic at Jorwe (a hoard of six) East of Bombay and at Navdatoli on the central Narbada, are of an Indus type. Though they are of an unspecialised kind, they are consistent with cultural intercommunication between the lower Indus and the Narbada system by way of the West Coast. The evidence tallies (Wheeler Sir Mortimer, 1966, pp.89-90).

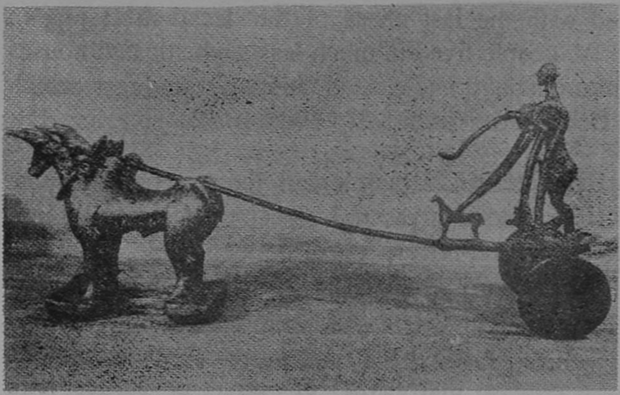
The bio-spheric condition and eco-system indicated by the animals or wild beasts represented in the seals and sealings of the civilisation enables us to picturise. (Srinivasan K.R:, 1988, p.5).

The settlements were on open or 'opened-up' areas amidst dense evergreen and marsh bordered forests, located on fairly high ground and yet exposed to inundation by the rivers and rivulets swollen by excessive rain or by the melting of the Himalayan snows. The occurrence of such floods has been evidenced by indications met with in the 'excavations'. For instance Mohen-jo-Daro had seven periods of occupation (Srinivasan K.R., 1988, p.5). This tallies with the findings on Holocene sea level transgressions that Marine archaeology has arrived at below. But the dating is wide off the mark.

The rivers, too, seem to have been shifting beds and courses and the Saraswati and the Drishadvati, the then tributaries of the Indus, have since dried up (Srinivasan K.R., 1988, p.5). This is borne out by Remote Sensing.

The enormous quantity of Kiln-burnt brick structures presupposes extensive forests in the vicinity of the cities and the other settlements that only could have met the needs of the Kilns, the potters, the 'tandoor' type kitchen hearths or ovens as also the timber needed for house construction, especially for the terrace roofs (Srinivasan K.R., 1988, p.5).

Depicted in the seals, are the 'Royal Tiger (Panthera tigris) – the large striped tiger familiarly known as the 'Royal Bengal Tiger' to the shikaris (and as Vengai or Valvari Vengai to the Tamils, the Indian Elephant (Elephas maximus indicus), the one horned Indian Rhino (Rhinoceros unicornis) and the wild Indian Bull (Srinivasan K.R., 1988, p.5). We find that except the elephant, the other three beasts have been pushed far west into the Bengal, Nepal and Assam belt in the north-east of our Indian sub-continent. This shows the large climatic changes that have taken place, which is corroborated by Pollen Analysis.



Picture No. 7. (Srinivasan K. R., 1988)

Daimadabad, Ahmadnagar of Maharashtra, a Harappan site has yielded, on excavation, a chariot drawn by a pair of bulls yoked to it, with a standing driver on its open deck. It resembles very much such types called Rekla Vandi drawn by a young bull or colt, such bull or colt-drawn reklas are in common use to-day, particularly in South India and Tamil Nadu.

Analysis of the bronzes

Analysing by the method of atomic absorption spectrophotometry, it is revealed that the alloy used is 'arsenic bronze'. It is similar to all the bronzes derived from Harappan centres. A metal such as arsenic in the present case, can lead to the tracing of the source of the raw ore, and help in determining whether the source was indigenous, or whether the raw ore or extracted metal is of foreign origin. So far this has not been determined (Srinivasan K.R., 1988, p.9).

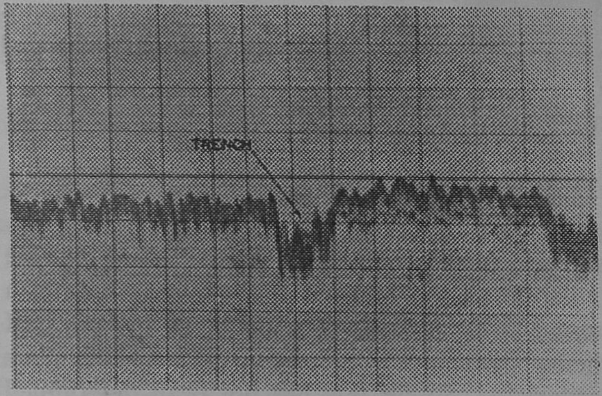
The 'inscribed' seals may as well be 'commercial' in nature, considering the fact that the Harappans, as other evidences show, were, among other things engaged in active trade and commerce.

The greater concentration of such seals in the metropolitan or urban sites, such as Mohen-jo-Daro, Harappa, Kalibangan, Lothal, Banawali, etc., than in the rural settlements, their occurrence side by side with graded cubical weight measures or units, uniformly found in all the sites suggests a common or agreed gravimetric standardisation (Srinivasan K.R., 1988, p11). A similar procedure obtained in the early Chola port city of Poompuhar or Kaveripoompattinam in South India in the 2nd century AD. The early Sangam Tamil literature refers to the import and export of diverse commodities and to the packages-podi

or chippam, for export 'sealed' with the tiger emblem of the Cholas and lying in the well-guarded ware-houses of the port (Srinivasan K.R., 1988, p.11). This shows the commonality of commercial practices in Ancient India. There was also cultural exchange due to trade.

Bhagavanpur on the river Saraswati in the Kurukshetra District (Haryana) is the northernmost site found so far. At this site the Painted Grey Ware (P.G.W.) culture at its lowest level is found to be interlocked with the last phase of the decadent Harappan (Srinivasan K.R., 1988, p.20). The P.G.W. people lived in much less sophisticated houses of wattle-and-daub, carried on agriculture and domesticated animals, amongst which particular mention may be made of the Horse (Srinivasan K.R., 1988, p.20).

Circumstantial evidence would thus identify the P.G.W. people with the Aryans who came over to this region, perhaps in waves according to Srinivasan. Iron came subsequently into the P.G.W. culture, even as it seems to have done in respect of the megalithic culture of South India, at almost the same time (Srinivasan K.R., 1988, p.20). He queries whether this is the archaeological evidence echoed by the belief of some scholars that 'ayas' or 'loha' of earlier (Rig Vedic) literature denoted copper? (Srinivasan K.R., 1988, p.20). Why could it not be that the Rig Vedic people knew the use of Iron? This shows the hold of Normal learning even when he himself agrees that there is interlocking between the Indus and subsequent people. Such is the hold on the mind of Normal learning, which comprises of the Aryan invasion theory and the outdated dating in Ancient History.



Picture No. 8. Detected trench by magnetic methods (Rao S.R., 1988)

The geographical extent as could be deduced from their extent and distribution, stretches from the foot hills of the Himalayas embracing the upper reaches of the Indus (Sindhu) and the Saraswati and the Drishadvati river systems, down the rivers themselves, and up to the lower reaches of the Narmada and the Tapti, and one can say even to the head of the Godavari basin, if we include the recently discovered Daimabad site, on the south (Srinivasan K.R., 1988, p.4). It is felt that using magnetic methods for locating underwater metallic objects, the seismic profiler and side scan sonar surveys could locate civilisation along side Andhra coast that is now submerged (Rao T.C.S., 1988, p73). If the Cauvery valley is probed, they may yield some sites.

Some archaeologists still stick to the conventional dating despite overwhelming evidence to the contrary. Srinivasan states that the earlier calculations of the date and duration of this culture made on the basis of comparison with dated West-Asian cultures, primarily taking into consideration similarities as found in the seals, have since been checked up from fresh material collected by employing the modern Carbon - 14 method of dating. The duration of the culture has thus, been fixed as between Circa 2,500 BC and 1,700/1,500 BC. The sites discovered so far include both the metropolitan or urban cities and humbler peasant villages or rural settlements (Srinivasan K.R., 1988, p.4).

Carbon - 14 dating is not fool proof now since atomic testing has increased radioactivity. Genetics can be contaminated by touch. Hence, in Dakar, Israel archaeologists are leaving a part of the cave untouched for future generation using superior technology. Archaeologists formulating theories are limited by the knowledge available at the time of formulation. This is the problem with Sir John Marshall's and Sir Mortimer Wheeler's theories and those of their followers.

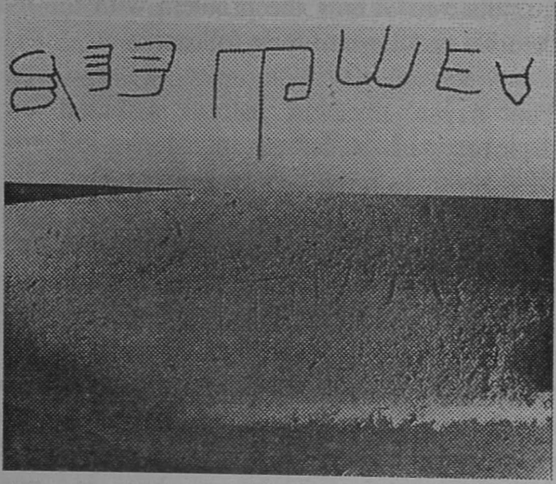
The Aryan invasion theory is based on the discovery of skeletons in Mohen-jo-Daro but M.C.Joshi, former Director General of Archaeological Survey of India during a lecture at Chennai Museum felt that they are at different layers. Therefore, the event could not have taken place at any one point of time. Hence, this theory is proved false. Sir Mortimer himself admits that 'Years ago, I suggested the Aryans invaders of the North West of the subcontinent as the ultimate agents of destruction. This cannot be proved and may be quite incorrect, but is not an impossibility'(Wheeler Sir Mortimer, 1966, p.78). But he starts to use Scriptures like the Rig Veda and words like *Puramdara* to show that Indra was a fort destroyer and the forts were Indus cities. This is a totally unacceptable twisting of the word Purandara which according to the dictionary is a name for Indra, Rudra and also means thief or house breaker. The word 'Port' in English means the side of a ship, a harbour or a drink. Therefore, an apt meaning fitting into the context has to be taken and not a meaning that does not fit into the context to suit convenience. This is an attempt to stick to the old theory, since he himself has formulated it.

Picture No. 9. Skeletons at different levels at Mohen-jo-Daro (Wheeler 1966)

Marine Archaeology

Dr.S.R. Rao has used Thermo Luminescence (TL) dating to show that Dwaraka and Bet Dwaraka existed at 3520 BP (Before Present) in 1988 AD based on analyses of pottery recovered from the sea in the sunken port. The dating was done by Prof. Singhavi (Rao S.R., 1998, p. 52). Parts of a wooden hull of a boat were sent to the Institute of Paleo Botany, Lucknow. A stone anchor was found at Dwaraka about 500 metres inside the sea on the continental shelf. (See Picture No. 10). If excavation is undertaken further into the sea, the real date will emerge which will corroborate the astrological cum astronomical date of Lord Krishna as about 3200 BC.

The Danish Experts Expedition in 1961 carried out a remarkable exploration in the Kuwait Island of Falaka. In the ruins of these were found numerous stealite seals of the same type as are found in Mohen - jo - Daro and in Ur in Mesopotamia (Ramachandran V.G., 1998, p 105). Lothal was a great port with a dockyard. (See Picture No. 11, Dock Yard, Lothal (Rao S.R., 1988). This was disputed as an irrigation tank by the Aryan invasion theory protagonists. But the presence of *Foraminifera*, a marine organism and gypsum crystals, which occur in hyper saline conditions, has now established that it was indeed a port. It has been cut off from the sea due to shoaling of the Gulf of Cambay as a result of Holocene sea level rise (Nigam R., 1988, p.20). This is corroborated by remote sensing (Rao D.P., 2000).



Picture No. 12 Beyt Dwaraka, Pottery with post Harappan script (Rao S.R., 1988)

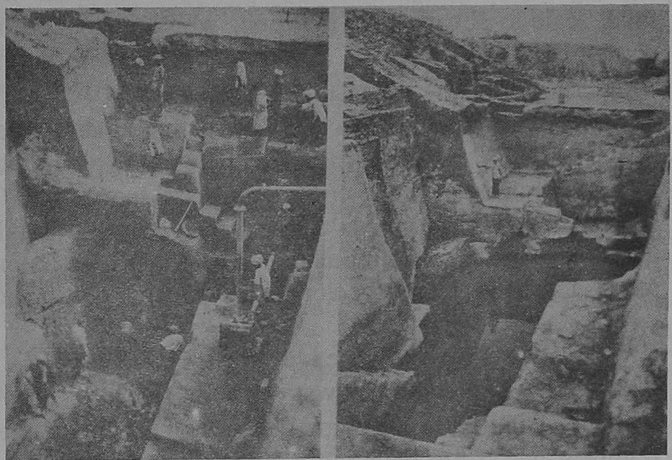
Negi and Tiwari have analysed sea level changes in the Hudson Bay, Canada during the past 8000 years, global temperature variations of the past 20000 years decoded from glacial – inter glacial episodes and tree-ring record (Dendro Chronology) of paleo temperatures from an old Japanese cedar for the past 17000 years. Maximum Entropy and Walsh Spectral Analysis of these three independent time series from different parts of the world reveal cycles of 1083 and 634 years in sea level changes which correlates well within error limits to the known planetary cycles of 1133 and 567 years. They feel that this may be not as much due to tidal effects as alteration in the pattern of basic energy flow from the Sun. Therefore, they feel that a sea level anthropological cycle of 550 years takes place in global history. On that basis, Dwaraka must have experienced six transgressions and regressions of the sea, which accounts for the several layers of settlement encountered during archaeological excavation (Negi J.G. & Tiwari R.K., 1988, p.79- 82). Estimates of the Holocene sea level transgression have an important bearing on

most archaeological problems. Nair and Hashimi have found sea level rising at 10 metres per 1000 years about 10000 to 110000 years ago on the western continental margin of India. They base this estimate on coral growth and drowned banks of coral in the Lakshadweep Sea. They conclude that Holocene sea level rise was of the order of a rapid drowning (Nair R.R.& Hashimi N.H., 1988, p.86). Shoreline recession in Bet Dwaraka and Dwaraka area is around 4 metres per annum for the period 1848 to 1977 AD (Pathak et.al, 1988, p.62). This makes the Mahabharata story of submersion highly plausible.

Remote Sensing

There are subterranean channels of River Saraswati seen by remote sensing satellite. It connects to Allahabad. The dried up bed of the other branch is seen in Rajasthan and Gujarat (Rao D.P., 2000). The British historians and their followers dismissed the river as mythical till the 1970s. The shifting of the river over time is clearly seen.

A recent article states how building of a check dam (Johad in local parlance) by Rajendra Singh, a famous social worker, at the source of the dried up river Arvari in Alwar district of Rajasthan has revived the river. It also adds that five rivers flow through Alwar perennially now due to use of this method (Ranganathan Arvind, 2000). If a small intervention like check dam can have such a dramatic effect, the effect of large changes can only be similar to that described in our Puranas.



Picture No. 13. The lowest levels of Mohen-jo-Daro have never been reached due to high water table (Wheeler, 1966)

Recently, Col. Umesh Prasad and the 23 Infantry Division of the Indian Army have found 27 rock shelters decorated with Stone Age rock paintings in the Kaimur Hills, Bihar during a trek. The paintings showed a mutilated left palm, sun god, a horse with a rider, wheel and cart, men playing flutes etc. Lt.Col. Prasad is reported as saying that in many of the caves mutilated left palm prints with the forefinger and small finger missing were found. The same pattern was found in Southwest France in the Garga Cave also known as the 'Cave of Hands'. The 'Hand' is a pictographic symbol in Epigraphy. The paintings of a horse he felt gave the lie to the theory that the horse was of Grecian origin (UNI,2000). This finding is triangulated by the verses in *Rudram,* a sacred chant when the Shivalinga is given the *Abhishekam* or ceremonial sacred bath. It clearly states that Shiva is '*Ashwapathi*' or Lord of Horses. The claim that Shiva was a Dravidian God and Dravidians did not have the horse need not be

refuted in a more emphatic fashion in the light of the above archaeological and scriptural evidence.

The French team which excavated an Indus site Mehrgarh, west of Mohenjo-Daro estimates the city civilisation at circa 8000 BC. This result is according to Carbon-14 dating using sun dried bricks and earthen pots {Mathivanan R., 1995(1), p.4}. Jean Francois Jarrige in 1974 excavated Mehrgarh. Rafique Mughal, a Pakistani archaeologist also feels that Mehrgarh takes us another 4000 years before Indus Valley civilisation proper and there has been continuous occupation (Rajagopalan R., 1995, p.71).

A renowned Marine Archaeologist S. R. Rao (1992) in his lectures states that the accenting and ligaturing in Indus script were inherited by Brahmi. The religion of Harappa as indicated by the fire and sacrificial altars was very close to that of the Vedic people. There was a cultural integration of fire and animal worshipping people. The Indus cities were not invaded by Aryans. Natural calamities were the cause of their abandonment. Both the Vedic people and Harappans worshipped Fire as Agni. He stops just short of saying there was no new race from Central Asia.

Sir Mortimer feels that the southerly extension of the Mauryan Empire from the Ganges at the beginning of the third century BC over a several chalcolithic cultures with a strongly microlithic bias swept the fully developed Gangetic Iron Age. It was on a sufficiently small scale to absorb local traditions whilst imposing the (literally) iron discipline of the northern civilisation. This advance stopped in northern Mysore, but it later reached the Southern end of the Peninsula and by the first century AD, was fully established there, with widespread contacts overseas. Starting at about the same time, i.e., the third century BC, it began to spread also down the coastal plains beside the eastern ghats (Ashoka's famous conquest of the Kalingas of Orissa about 264 BC is a key-point), and as far south as at the famous Amaravati on the Krishna river. Here the Northern Black Polished Ware of the Ganges found an ultimate home. The picture is one of gradual spread from north to south. This is logical (Wheeler Sir Mortimer, 1966, p.136).

Even this version on recorded history is challenged by a different dating. It is claimed that Alexander's contemporary was Chandra Gupta of the Andhra Britya Surya Vamsa. The Kings of Pataliputra were good friends of Cyrus the great of Persia who had an elephant regiment and a big battalion of very good Indian warriors. It was the great Pataliputra army of Kurukshetra, poised for a war that made the Greek generals of Alexander refuse to move forward beyond the Sutlej. This ultimately led to the destruction of the Greek Army and made Alexander retreat along the Makran coast and get murdered at the hands of the wild tribes in an unknown place. Instead of this Chandragupta is equated with the Emperor Nanda Vamsa Chandragupta, founder of the Maurya dynasty, who ruled at Pataliputra, more than 1000 years earlier. His grand father Nanda, conquered the whole of Bharat, and performed Aswamedha sacrifices and erected a great number of Jayastambas, now called Asokan Pillars (Ramachandran V.G., 1998, p 46).

The Aryan fair skin theory is exploded by Rama and Krishna the so-called Aryan heroes being dark skinned. This may be because God is perceived as a Black Hole (Anti Matter) in contrast to the White Hole (Matter). The other explanation is that colour is skin deep and the aura is rosy for a God and that is what matters. Kirlian photography shows up auras.

Another example of the hold of the Aryan invasion theory is the description of the megaliths in South India as being of Aryan origin (Parpola Asko, 1973 ,p.1). The *vratyas* are described in the Vedic literature. Parpola feels the *vratyas* seem in many respects to hold a key position for our understanding of the Indian Proto history (Parpola Asko, 1973, p.2). Parpola identifies the vratyas as the perpetuators of the traditions of the chalcolithic black and-red ware people. He feels as B. and R. Allchin does that they are pre-Vedic Aryans. This is because they are looking for a separate race.

Allchin feels the Dravidian languages came to India with the pre-Harappan cultures of Afghanisthan, Baluchistan and Indus Valley in the fourth millennium BC. Such a linguistic relation of South India with the North-west is held to support the Allchins' theory according to which the Southern Neolithic owes its origin and its language to impulses from the early cultures of north-west India (Allchin B. & R., 1968: p. 168, 325). Certain proof for Harappa contacts with South India is provided by the fichsite vase found from Mohen-jo-Daro: This mineral is extremely rare and could hardly have come from anywhere else than Mysore (Parpola Asko, 1973, p.10). This is looking at causation as possible only from North to South. This is a one sided view. Causation can be South to North as well.

The earliest inscriptions from Tamilnadu date from the second century BC. They are written in caves in Tamil language with the Brahmi script, and bear evidence for Buddhist and Jaina faiths, containing also some Prakrit loan words, such as *amannan:* Prakrit *samana*: Skt. *Sramana* 'Jaina monk', or *sutan: suta* 'son' (Mahadevan 1968 from Parpola Asko, 1973, p.10). This shows the South to North traffic. Attention is drawn to the correspondence between the Balinese Sanskrit text and the Adi Parva of the South Indian version of the Mahabharata to show cultural contact across the sea (Sivaramamurti Dr.C, 1979, p.37).

Horse bones, bells, bridle bits and other horse furniture have been found in some of the megaliths, and suggest that the early megalith builders were equestrian (Parpola Asko, 1973, p.13). This shows that the horse is not such a foreign or unknown animal as claimed as seen earlier also.

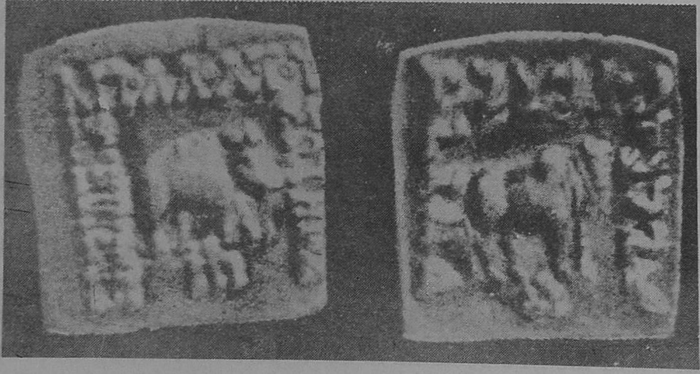
The evidence for maritime trade between South India and the Mediterranean region is the anonymous Greek text entitled "The Circumnavigation of the Red Sea", and this is confirmed by the archaeological evidence of the Roman trading colonies on the east coast of South India, in Arikamedu near Pondicherry and elsewhere (Parpola Asko, 1973, p.15).

This shows that the land based migration alone talked about is not valid. The Tamils knew about navigation enough to sail the oceans.

Picture No. 14. Gangaikondachola coin, Chola, 11th century A. D., National Museum, New Delhi

Numismatics

The gold coin of Rajendra Chola is in National Museum, New Delhi after winning the Gangetic area with 'Gangai konda Cholah' in Nagari script is taken to confirm his victory (Sivaramamurti Dr.C, 1979, p.32). The Indo-Greek coin circa 2nd century BC with a humped bull and a *Kharoshti* legend is correlated with the bull in Kalidasa's Raghuvamsa (Sivaramamurti Dr. C, 1979, p.44). The bull reflects might in Indian culture and literature. These are cited to show that coins, which are taken to authenticate historical events also, corroborate literature and legend. The literature and legend are therefore reflection of historical events.



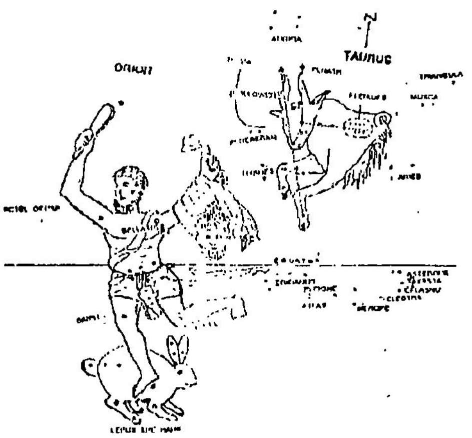
Picture No. 15. Bull and elephant on coin of Apolodotus, 2nd century B.C., National Museum, New Delhi

Archaeology is the mainstay of dating events. But it also gives out conflicting results especially when it is viewed through subjective bias. Standing alone conjectures like Aryan invasion, wrong dates like Indus Valley around 1500 BC or 1000 BC for the Vedas and Epics like Ramayana etc will emerge. Therefore, it has to be corroborated with other disciplines to remove contradictions or wrong conclusions. This will enable deeper probing. This brings us to yet other disciplines, Astronomy and Astrology as tools for dating events.

ASTRONOMY AND ASTROLOGY

They provide a very reliable method of dating. Astronomical dating has the further advantage of avoiding contamination unlike Carbon-14, TL dating etc since the heavenly bodies are as yet beyond the physical reach of man .

Our Brahmana and Panchama Vedic scriptures contain ever so many astronomical data with regard to events recorded in them. With the aid of these data and astronomical methods of calculations we can work out the dates and events to some extent, without much error. This method of ascertaining dates of events by astronomical principles is known by them as 'Aryan', since it belongs to the line of enlightened, cultured Rishi-teachers of ancient Bharat (Sakhyananda, 1998, p. 22-23).



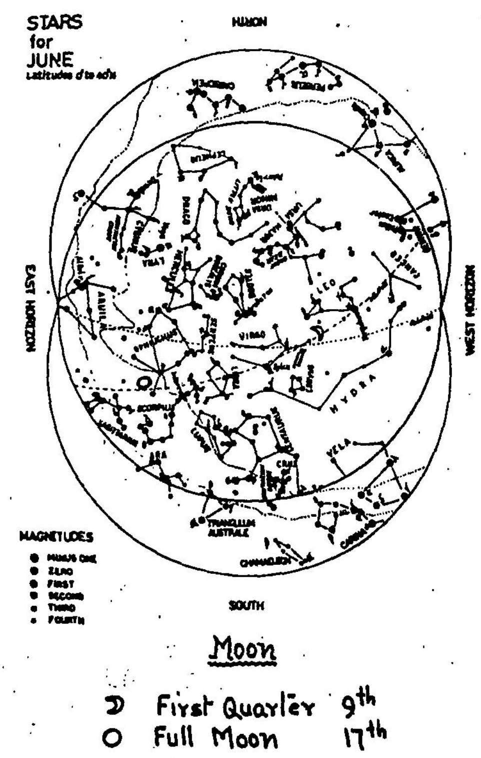
Picture No 16. Position of constellations in the sky (Hindu, April 2000)

An astronomical approach to analysing ancient civilisations with the use of Precession and computer modelling of the Zodiac has been used by James Hancock who presented the programme 'The Lost civilisation' on the Discovery Channel. He has established that the Egyptian Pyramid of Gizah has an elaborate system of shafts, which point at Orion. He quotes Robert Bauval, a Belgian Engineer, the author of the 'Orion Mystery' and 'Forgotten Knowledge', who speculates that the Pyramids were not mere burial chambers of the Pharaohs but places to study Mathematical Astrology and Astronomy. The shaft at the Pyramid at Gizah pointed at Orion or Osiris, the main God of Egypt. He analyses Angkor Wat in Asia and Chichen Itza, the Mayan pyramids to conclude that they all referred to 10,500 BC. The rate of Precession was used to find out the year in which the monuments would have pointed at a star or sun on a particular day – for example the summer solstice day. In Yonaguni Island, Japan there is an under seaport and a six storey building. Prof. Masuki Okimura of Tokyo University feels that it is man made and is nine to ten thousand years old. 9900 years ago it was on the ancient Tropic of Cancer. Similarly in Easter Island, Pacific there are statues which face the sun and point at certain stars. It is situated on the ancient tropic of Cancer 9900 years ago. He refers to the Seven Sages as the teachers of the world, which is common to the Mexicans, Aztecs, Egyptians and other civilisations. All this points to a highly advanced maritime civilisation that navigated with the help of stars. Angkor Wat is 72° East from Gizah. He feels 54° represents Precession over a period. Our rate is around 50.3 seconds per annum. He does not realise that the Seven Sages are our Sapta Rishis.

Eric Van Daniken in his book 'Chariot of the Gods' feels that the geometric designs of the Incas in Southern Peru could be seen in their entirety only from the air. Therefore, there must have been an advanced civilisation, which could fly. Hancock quotes this.

Archaeologically, the sphinx is dated to around 2500 BC. But Robert Choch and John Anthony West of Boston University feel there is evidence of water falling down the Sphinx. At 2500 BC, Egypt was dry. Therefore, Astronomy should be used to supplement dating. They refer to a 300-year cycle of drought and flood to support heir theory. Hancock speculates that the Sphinx may be at least 5000 BC when there was rain in Egypt. Megaliths on the Chalk Hills in Southern Britain are aligned to Taurus as it was at 3000 BC (Precessed). In Stonehenge, the heel stone is aligned to the Sun. Carbon dating in 1997 AD has dated it 10,000 years ago, 5000 years earlier than normally thought. He thus concludes that all these civilisations date back to 10500 BC. In Pollen analysis seen above, there is clear evidence of a cycle of rain and drought.

The Rig-Veda has maritime references and therefore, there is a maritime civilisation before it {Rajaram N.S., 2000(1), p.121}. The Rig-Veda has a Verse 'let us by boat set out to all quarters of the earth'. They had ocean-going vessels with 100 oars and white sails. There are references to shipwrecks also (Pati Joshi Jagat, 1988, p.100). There are prayers to the Asvini Kumaras to save such an ocean going vessel caught in the midst of a storm. It may be pointed out that in 1.182.5 and other passages of the Rig Veda, the Asvins are said to have made 'ships with wings' to save the son of Tugra from the water-floods (Sundar Raj M., 1997, p. 215).



Picture No 17. Draco is 180° opposite Orion as seen from the pointing at Angkor Wat (Hindu)

The Saptha Rishi Era or Manvatharadi was started on Friday 21st November 8576 BC. (Raghavan K.S., 1998, p.66). According to traditional chronological accounts of the Rajatarangini and Vedic Astronomical Calendar, Sraddhadeva Vaivaswata was crowed *Manu*, the first king of human society of this age (Manwantara-Mahayuga) by the Saptarishis in the year 8576 BC, Magha Sukla Prathama, when the Vernal Equinox was in the first quarter of the Magha Nakshatra, 120° on the Indian standard Ecliptic. The race of illustrious rulers descended from Manu is known by the name Manu-Kula Kshatriyas, or Arya Kshatriyas. Aryanisation means the process of educating and civilising the world of men by *Manava Dharma* – the law of righteous life enjoined by Manu. Otherwise how

should we account for the imprints of Indian tradition and culture some of which are six to seven thousand years old, found even now in far off lands like Indo-China, Indonesia Mexico, Central America, Peru (Sakhyananda, 1998, p. 26). The Chaldeans as far back as 7000 BC speak of an Egyptian priest-astrologer named Manetho and that Satyacharya's disciple was also Manita.

Therefore, it is clear that the Seven sages that Hancock talks about are the Sapta Rishis described in the Hindu scriptures. He has not studied our ancient civilisation. His dating of 10500 BC may be due to his model of Precession. It has been precisely dated at 8576 BC, the date of crowning of Manu. However, since the Rishis must have been born long before Manu 10500 BC could also be taken as the time when they lived since there are Seven Rishis in a line. They have been described as stars 'Sapta Rishis' in line with the theory that ancient religions based themselves heavily on natural phenomena especially Astronomy as seen in this section.

In the days of the Rig Veda the Vernal equinox was in Mrigashira or Orion, and that the Vedic texts, properly interpreted, clearly referred to a Nakshatras series older than the one beginning with the Krittikas at its head, thereby carrying back the antiquity of the Vedic civilisation to the fifth millennium BC". (From Vedic Chronology & Vedanga Jyotisha, B. G. Tilak, Poona 1925 p.10 from Pandya A.V., 1957, Hindi section, p.19). Since the 28th star Abhijit went away as pole-star in 10,000 BC only 27 of them are taken into consideration (Raghavan Prof. K.S., 1998, p.133). The Abhijit is depicted on the temple wall at Avudayar Koil in Pudukottai district, which this writer saw for himself. Therefore, to dismiss it as a myth is not wise.

Even Tilak talked boldly of 5000 BC at least four times the then fashionable 1500-1000 BC age of the Indian civilisation. Today, if the same ratio is adopted, archaeologists talk of circa 2700-2600 BC which works out to circa 10500 BC, the date Hancock adopts.

Rejection of the Lemuria theory off hand has made us confuse present Sri Lanka with the real Lanka. There is a clear astronomical description of Lanka of Ramayana. Kanyakumari is on 3° Lat. The distance per degree is 69 ½ miles. As such the distance between Kanyakumari and the equator comes to 556 miles. Hence, Lanka should have been situated from 1° north of equator extending to the south of equator. (Sampath Iyengar G.S., 1998, p. 76). This has nothing to do with the present Sri Lanka. It is on 77° E longitude, which is still, called Lanka Rekha in the Snake Vakya Panchangam. The intersection gives the exact location, which is in mid Indian Ocean now.

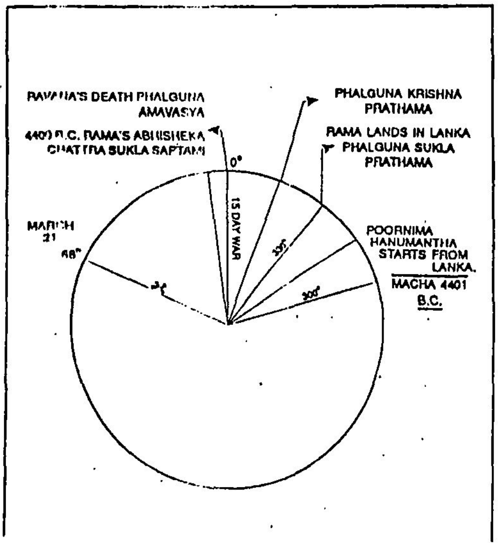
From 3000 BC the Rajputana area and the Gangetic Valley showed signs of rising, while the west coast of South India began to sink. The southern tip of Tamil Nadu suffered from tidal waves. Slowly the great Pandyan king Nilan Tharuthiruvir Pandyan II; led his people further north and it is said that he was the last of the millions of people who crossed the Kumari river northwards and the advancing tide washed his feet. A poet, who saw the rocking and sinking of the land, has described it. Because Rama's Sethu Bridge was in

Tamil Nadu, on the West Coast and because it got submerged in 2700 BC, the Pandya Kings of the south built a new Bridge here. The points substantiated in the above discussion convincingly prove that Ravana's Lanka was 7½° south of Kanyakumari on the Equator, crossing the longitude 77° east, and ceased to exist long back. (Ramachandran V.G., 1998, p. 80). This sea ingression is corroborated by Marine Archaeologists Negi and Tiwari who use Dendro Chronology and the paper on 'Holocene Sea levels' by Nair and Hashimi, seen above under Marine Archaeology. In Carnace, France a very big megalithic burial site, there is evidence of a flood due to Ice Age 10,000 to 13,000 years ago according to Hancock. The cyclone of 1966 AD obliterated Dhanushkodi, a bustling temple town with a famous temple and the gateway to Ceylon. Those who had not seen Dhanushkodi then, will not now believe that a temple dedicated to Lord Rama and Hanuman existed with a large population and pier and railway station. After, a few centuries it could be easily called a mythical town. Lemuria appears to be such a victim of human amnesia.

Historians naturally used to debunk claims of descent from Sun and Moon for Rama and Krishna that our epics make. These are to be understood allegorically and not literally. Lokamanya Tilak in his Orion states that there is Vedic evidence in support of the fact that the Vedic people had sufficient knowledge of Nakshatra astrology as far back as in 5000 BC. (Pathak K.K., 1998, p. 488). This period was named the Orion period as the Vernal Equinox was in the constellation of Punarvasu ruled by Aditi (Sun), this period (8000 - 5000 BC) was called Aditi or pre-Orion period by Tilak. Incidentally, the pivot of Treta Yuga, Lord Sri Rama, was himself born in Punarvasu Nakshatras ruled by Aditi (the Sun). (Pathak K.K., p.489). Hence, the Ikshvakus were called Surya Vanshis.

In Tilak's Orion period (5000 – 3000 BC), when the Vernal Equinox was in the constellation of Mrigasira or Orion ruled by the Vedic Devata, Soma (the Moon), it will be more proper to ascribe this period to Dwapara Age when Chandravanshi Lord Sri Krishna was born. Dwapara was an age of Chandravanshi rulers (Pathak K.K., 1998, p. 489). This was the era of Chandra Vanshi rulers. Therefore, there is a strong astronomical connection.

DETAILS OF RAMAYANA WAR



Picture No. 18. (Raghavan K. S., 1988)

The Kings are not to be taken literally as descendants of the Sun and Moon. It is only an astronomical allegory to show the period of their rule.

The Ramayana can be accurately dated by analysing the horoscope of Lord Rama and relating it to astronomical phenomena. It is interesting to note that Dr. P.V.Vartak in his book Vastav Ramayan has attempted to calculate specific dates of important events in the Ramayana. Dr. Vartak came to the conclusion that Sri Rama's date of birth was 4th December 7323 BC. According to him, on the day of birth of Sri Rama, Saturn was at 25° Libra, Jupiter at 4° Cancer, Mars between 13° and 18° Capricorn, Rahu at 29 degrees Virgo and the Sun at 2 degrees Aries. Further, he indicates that as Venus is always within 47 degrees from the Sun, it was in an exalted position in Pisces (Dr. Bangalore Sureshwara, 2000, p.77).

The Puranic story about the birth of Brahma, in fact, is an allegorical description of an astronomical epoch that had the Vernal Equinox over Rohini Nakshatra. Further, pursuance of this legend leads us successively to Vishnu and Rudra, the latter the ultimate personification of Time, the destroyer of everything or Hara (Chandra Hari K, 2000, p.125). These concepts have been further developed as follows:

Mandaragiri - Meru-Earth's axis
Vasuki - The Celestial Equator
Devas - They hold the Devayana Path of the Sun from the Vernal Equinox to the Autumnal Equinox.
Asuras - they own the Pitryana, Autumnal Equinox to the Vernal Equinox and the Southern Hemisphere.
Rudra – Meeting point of the two halves of Devas and Asuras at 240° - where the Akasha Ganga cuts the ecliptic.
Amrtam - Antidote against the ageing process i.e. becoming immune to the Precession of the Equinoxes or Sidereal Year or Zodiac.

Chandra Hari feels that the iconography of Siva evolved out of the Tantric conception of the Zodiac at a pre-historic epoch. The legend of Hari Hara Putra shows 18 steps which denote the Fiduciary star at the end Moola 18x 13°20' = 240° i.e. Moola. Yoga Vidya also denotes this. Kundalini is raised from Mooladharam to Sirsa Padmam in 18 steps (Chandra Hari K, 2000, p.399).

Over this Sidereal conception, Moola had a fixed longitude of 240° and marked the beginning of Moola division and the Dhanu Rasi at the place where the celestial Ganges crosses the ecliptic. Moola thus became Gangadhara – Rudra and a synonym of Time in Hindu mythology. Over the Cosmic Man 240° became the Mooladharam – seat of Kundalini – and also marked the position of the phallus. The cosmic phallus or Linga became a symbol of Time or Rudra, and this, in turn led to the primitive phallic worship. The Autumnal Equinox Epoch at 4137 BC fixes the longitude of Moola as follows:

UT-4136/10/23.01Hrs, 14mts, 35sec.
Tropical Sun=180°
Ayanamsa = 60°02'36". Ignoring over the 6000 year interval 2'36", the sidereal longitude of the Sun falls over 240°, i.e. Moola (Chandra Hari K, 2000, p.399).

All the classical Siddhantas of Hindu astronomy describe Time – cycle of Yugas – as beginning with lord Brahma, the mythological Creator whose birth took place in Rohini Nakshatra or at an astronomically defined moment. (Chandra Hari K., 2000, p.125).

Based on the iconography of Rudra Siva, the original epoch of Mooladhara Chakra can be discovered as in the remote antiquity of 4137 BC. One of the theories is that the conflict between the Siderealists and Tropicalists were the major source of Hindu Puranas (Chandra Hari K., 2000, p.122).

We can see a reflection of these facts in the Mohen-jo-Daro seal No.M420 that depicts a three-faced Yogi in the Urdhva Linga (penis erectus) posture. The horned head-dress symbolises Aum-the beginning of creation and according to Mundakopanishad Pranava (Aum) is Dhanu – perhaps Dhanur Rasi, the bow of Rudra as Pinakapani. (Chandra Hari K., 2000, p.125). Therefore, the theory of astronomical allegory gains more proof above. This point is also made by Bauval and Hancock who state that the Egyptian God Osiris is related to the stars. This has been the pattern with ancient civilisations.

Around the mid - 1990s, radio astronomy discovered a huge electromagnetic filament at our Galactic Centre. Scientists measure this cosmic structure as about 150 light years long and two or three light years wide (a light year is the distance light travels in one solar year. The distance is equivalent to about 9,000,000,000,000 km or about 6,000,000,000,000 miles). Gregory Benford, Professor of Plasma Physics and Astrophysics, University of Irvine, California, USA, calls this unique structure in the middle of our Milky Way galaxy – the "Snake". (Levacy William R., 2000, p.127). This may represent Rahu and Ketu, the celestial snakes of Hindu astrology. They played a crucial role in eclipses and in human horoscopes.

For accuracy of dating, it is essential to fix the rate of Precession and the initial point of the Fixed Zodiac. Extraordinary accuracy characterises the fixing of the year and time of the first point of the Indian Zodiac since it determines Precession. This is called Nirayana or Siderial as opposed to Sayana or Tropical, since it measures from the initial fixed point. The movement of the Equinoxes is deducted from the movement of the planets since the measurement is with respect to a fixed star. A star is relatively fixed as compared to the movement of the Equinoxes. This initial point fixes the Kali Era.

One may with his familiarity with the Equinox and its rate of precession given in modern reference books take it for granted that the same is self-evident. But the ancients, without having even imagined the Celestial Equator and the Ecliptic had no reason to be aware of

it. The rate of precession 1° in longitude in about 72 years is too small to be noticed by naked eye observations for even a lifetime even with a co-ordinate system. But its effect is experienced as a change in declination of stars, i.e. shift in the point on the horizon at which a particular star rises and in the identity of the stars near the horizon, say at twilight in a particular season. However, both these changes, being slower, compared to the rate of precession, will be appreciable enough to be noticed only in the course of centuries. Detection of such a change, confirmation of the change with further observations, discovery of the causal principle viz., the Precession of Equinox, and finding the quantification is a lengthy and possibly, haphazard process extending over a number of centuries. Observations are made, data collected and transmitted, orally or otherwise, from generation to generation and possibly from place to place. All these activities entail the use of one or more reference points in space other than, the Equinox, which is yet to be formulated. Such a reference point cannot but be Sidereal in nature. In short, development of the Sidereal system is a pre-requisite for the development of a Tropical system. It is not surprising that both the better known systems of ancient astronomy, Indian and Chinese are Sidereal (Surendran, 1998, p. 51).

Precession has movements at the rate of 50.3 seconds per year. At this rate, Precession takes about 26,000 years to make one revolution. (Raghavan Prof. K.S., 1998, p. 138). This value is generally agreed among all astronomers and astrologers. Ayanamsa is the value that is deducted from the Tropical (Sayana) position to derive the position of planets after allowing for Precession as measured from the original point of the Fixed Zodiac. This is the Nirayana position.

There are some differences of opinion on the initial point. Generally, the initial point of Indian Nirayana zodiac from which the epoch is taken to start, is a fixed point on the ecliptic, and is the 1st point of Mesha Rasi and also that of Asvini Nakshatra division. However, it is now generally accepted that this initial point may be assumed to be that one which coincided with the Vernal Equinoctial point of the year 285 AD when the celestial longitudinal position of the star Chitra (alpha Viriginis) on the ecliptic was almost opposite this point. The Sun was on the Vernal Equinoctial point at 285 AD on 20 March at 22h 53m IST, and hence 21 March was the Vernal Equinox day of that year. The celestial longitude of the star Chitra was then 179 degree 59' 52", which is very nearly 180 degrees. According to the Surya Siddhanta of Maya Asura which has become the supreme authority for the Zodiac of the Rasis, 0 degree Mesha was 10 degree to the east of the star Revati. Now to determine the point that is 10 degrees of arc to the east of Revati, the star itself must be identified. It is no longer seen in the sky. Like a Super-Nova it may have burst and disintegrated. But some have chosen to identify it with the star *Zeta Piscium.* Thus arose another group of disputants. According to them the year of coincidence would be 576 AD (Chatterjee Com. S. K., 1995, p.502). This disintegrated star appears to be Abhijit, the 28th star of the Hindu Zodiac.

Another set of disputants feel that the starting point of the tropical point, that is, Vernal Equinox (March 31st, Vasantha) should be named as Madhu. Just because Revathi was at 180 degree from Spica, Varahamihara took it as the new 'O' starting point for sidereal year. This is wrong in the sense that the zero point shifted backwards or lagged behind by 1.46 degree behind Mesha segment. In other words, the Rasi Chakra itself slipped to the same extent (Ramachandran V.G., 1998, p. 135).

The date of commencement of Kali Yuga is 2427 BC February.(Vaidya R.K., 1997, p. 297). Com. Chatterjee disputes Prof. R. V.Vaidya's foregoing dating. The extent of commitment to accuracy can be seen from the debate on the minute details of the start of the Nirayana Zodiac.

However, the year 285 AD is the year accepted by the Calendar Reform Committee appointed by the Government of India. This is generally accepted by most astrologers. Raman Ayanamsa i.e. the system that gives the value to be adopted to be deducted from the Tropical Zodiac takes a different figure and original year. But as they say, the proof is the correct predictive ability of the value adopted.

The main criterion indicated for Kali epoch was that the Sun was at the first point of Mesha Rasi when Kali era began, and, therefore , it follows that it should also be at the same point on the ecliptic when 3600th Kali year ended and 3601st Kali year started, at the time when Aryabhatta stated that he had completed 23years of his life. But the length of the Aryabhatian year is very nearly 365.258681 days while the correct length of the sidereal year is 365.256363 days, that is, Aryabhatian year is longer than the correct length by about 0.002318 day, that is, by 3 mts. 20 sec. Therefore, 3600 Aryabhatian years will be longer by about 8.345 day.(Chatterjee Com. SK(Red.), 1995, page.502). This degree of accuracy is uncanny considering the period at which they were calculated and instruments, which were used. There is similar accuracy in South American cultures like Incas, Mayans etc.

It is possible to date the Mahabharata from the wealth of astronomical and astrological data given in it. Com. Chatterjee takes the day of Pitamaha Bhisma's death as Uttarayana day following the Indian solar year covering 2786 – 2785 BC This has been done on the basis of actual positions of the Sun and the Moon as derived from the tables of Drs. Bretagnon and Jean-Louis Simon's for the Sun.. It may be mentioned here that normally all tables give positions of luminaries for periods earlier to 1582 AD in Julian calendar dates because Gregorian calendar dates come into use only from October 1582 AD. But Prof. Vaidya has shown the events against Gregorian calendar dates. (Chatterjee Com. S. K. (Retd.) 1997, p. 616).

B.V. Raman has calculated the exact date of birth of Lord Krishna as 19th July, 3228 BC (Raman B.V., 1981, p.1).

Late Prof. P. C. Sengupta, in a detailed article published in the Journal of Royal Asiatic Society of Bengal, Vol. IV, 1938 had expressed the view that Aryabhatta's mention of the epoch of Kali Era starting in 3102 BC when it was said that there was a congregation of luminaries at the 1st point at that time, and the ascending Node of the Moon then was 180 degrees away, was a figment of imagination of Aryabhatta (Chatterjee Com. S. K.(Retd.), 1997, p. 618).

We should treat separately the Mahabharata or Pauranic Kaliyuga from Calendric Kali Era referred to by Aryabhatta. Perhaps there was no firmly defined epoch for it, or different epochs were in use for the same Era as we have now different initial points for our Nirayana Zodiac. Aryabhatta took the step to standardise the epoch of this ancient Era by mentioning it was 3600 years of his life. He saw the great advantage of standardising this Era as it could be used to describe the great antiquity of our civilisation by direct reckoning which could not be done by Eras then in use, like Saka, Gupta etc. To-day Kali Era is used all over India and is shown in all Panchangas. (Chatterjee Com. S. K. (Retd.), 1997, p. 618).

Only Dubashis, not the well-versed, were consulted by Mr. Bentley and from the date he got from them, he established Kaliyugadhi on 17/18 Feb, 3102 BC. Being very anxious to disprove the ancient definition of Kaliyugadhi, his mind was absorbed and would not allow him to look at the stars dispassionately (Ramachandran V.G., 1998, p 48). It was fashionable to lampoon our Kaliyuga calendar in the 19th century and it is so even now. This is based on the heady feeling of the conqueror that the conquered Indian and his civilisation must be inferior.

In his learned translation of the Jaimini Sutras, Dr. B. Suryanarain Rao points out how in Sanskrit Mathematics, pneumonics of a particular kind are used. Unless these are mastered the translation will be highly inaccurate. In the Katapayadi system, the consonants of the Sanskrit alphabet have been used instead of the numbers 1-9 and zero to express numbers. The vowels denote zero in this method. The letters beginning with *ka* denote the numbers beginning with 1. The units figure is written first i.e. left. For instance, ra ma is 2 & 5 to be read as 52. All these nuances have been missed in the translations and wrong conclusions have been drawn. One is reminded of Alexander Pope who sang 'Where ignorance is bliss, it is folly to be wise'.

3102 BC as the origin of Kaliyuga and the standardised calendar of the Calendar Reform Committee is generally adopted throughout India.

It must be noted that the epochs of almost all Eras were fixed much later by back calculation, which may not tally with the present day calculation, or now known historical facts. We know that the epoch of the Christian Era was fixed many years later by back calculation, which has now been found to be wrong. It has now been found that Christ was born in 5 BC or so. (Chatterjee Com. S. K. (Retd.), 1997, p.618 – 619).

One of the other important aims of Aryabhatta in fixing the epoch of Kali Era 3600 years earlier than his time, was to start the system of counting the elapsed days continuously from this distant epoch, which is known as Kali Ahargana or Kali Day Number system. This ingenious method was introduced by him to overcome the vagaries of different calendric systems prevalent in India. This ingenious system is now used by astronomers all over the world, and was brought into use in Europe as late as 1582 AD (Chatterjee Com. S. K. (Retd.), 1997, p.619).

Sri Sankara Rao Borgaonkar in his article on the Birth date of Adi Sankaracharya in the Astrological Magazine of 1972 December, edited by Dr.B.V.Raman, Bangalore, states: " Thus Lord Buddha must be placed about 1200 to 1300 years before Adi Sankara. Adi Sankara was born in the year 509 BC"(Ramachandran V.G., 1998, p. 206). Historians usually date Adi Sankara to circa 8th--9th century AD. This shows the important contribution that Astrology can make to Dating. Of course, it must be triangulated with data from other disciplines. But to reject it off hand is not being wise.

The detailed information on the highly minute calculation that goes into Astrology and Astronomy would show how reliable they are and useful to dating. In other disciplines dates are calculated plus or minus a few hundred years which is the range of accuracy. The two have upset quite a few dates as postulated hitherto by historians by a few thousand years as in the case of Stonehenge, Rama, Adi- Sankara etc. Thus Astrology and Astronomy which have been neglected hitherto prove an invaluable means of Dating events scientifically removing all contamination by human beings. They should of course be triangulated with data from other disciplines as has been urged all along.

HISTORICAL RECORDS

These are valuable sources but have become mired in controversy regarding what is authentic and acceptable. The most valid source of Indian History in the Western view is the contemporary record by which they mean the scraps of diary notes said to have been written by foreign travellers like Magasthenes, Ptolemy, Pliny, Huen-tsang (Sakhyananda,1998, p.17).

This is, in a way, virtual negation of the fact that India had a civilisation and history prior to the visits of Megasthenes or Alexander. (Sakhyananda, 1998, p.17). Unfortunately this system has become 'Scientific' and 'up-to-date' for our modern Indian historians (Sakhyananda, 1998, p.18).

The extent of inaccuracy can be gauged from the following version of Pandya which reflects the received wisdom circa 1950 AD. According to him, the year of Buddha's death as calculated from the recorded dates of the various Buddhist councils, to be about 483 BC. The earliest works of the Vedic literature have on these grounds been estimated by him to extend from 1500 BC to

1000 BC. "This dating has a further support from the Boghaz-Keui records of the 14th Century BC, mentioning the Vedic deities". The age of the compilation of the Rig Veda is based on the frequent occurrences in it of the Asura people, whom he identified with the Assyrians (Ashur-uballit-I in 1370 BC. ended the Aryan Mitannian dynasty in Assyria or ancient northern Iraq and the last Assyrian king Ashur-uballit II died in 606 BC. in Nineveh when it was destroyed). It shows that the Assyrians were in their heyday when the Rig Veda, the oldest of the Vedas, was compiled (Pandya A.V., 1957, Hindi Section, p.42). All this dating has been called into serious in this work.

Epigraphy

This discipline shows different stages of writing.

Pictography – pictures;

Ideography – ideas represented by pictures;

Word writing – signs;

and

Phonetic – Syllabic and Alphabetic writing which is the modern method.

Analysing our ancient history, it is felt that the 'vocal' and 'audible' Vedic-Aryan phenomenon contrasted with the Harappan ethos. They have a 'script' of their own and not a language, a factor which make us call them in a way 'mute' yet, since there is no counterpart of the Rosetta Stone (Srinivasan K.R., 1988, p.21).

Even a Greek writer circa 1970 AD goes part of the way to recognise that there are no different races but the same people. He states that the first Aryans in India adopted the Harappan script; but as they, unlike the Greeks, did not also appropriate the economic system developed by the earlier culture, the script having lost its raison d'etre, was confined to owner's marks (seals) and died out (Parpola Asko, 1973, p.21).

Father Heras, Asko Parpola, Y. Knorozov and I. Mahadevan attempt to read Indus script as Proto-Tamil while S. R. Rao, Dr. Jha and N.S. Rajaram try read it as Sanskrit (Mathivanan R, 1995, pp.5-6). But Mathivanan's thesis that Harappans did not have the horse and therefore were not Aryans is questionable. The recent cave findings by Col. Umesh Prasad and his team in Kaimur Hills of Bihar give the lie to this thesis. It appears correct to say that the Indus script is a commonality to all Indian languages (Mathivanan R, 1995). It is stated that Indira Paula of Jaffna University found a bi-script metal seal and it has features of the Tamil and Prakrit Brahmi script and the old Indus script. It is dated to the Second Tamil Sangam which according to him functioned near present Sri Lanka circa 2300-1700 BC. This dating of course does not agree with the dating from other disciplines in this work and is too late.

Beginning in late 1996, Rajaram claims direct evidence also became available in the form of Jihad's decipherment of the Indus script, followed by his own readings, leading to his decipherment of what has been called the 'world's oldest writing'. This showed that the language of the Indus Valley (Harappan) Civilisation was Vedic Sanskrit indicating that the Vedas came before the Harappans. His decipherment of the ' world's oldest writing' showed that the Rigged already existed by 3500 BC {Rajaram Dr. N.S., 2000(1), p.120}.

Picture No. 19. World's earliest writing (Rajaram N.S.)

Picture 19 is a sample of what has been called world's oldest writing by Dr.N. S.Rajaram. According to him, the date is uncertain but the writing is more primitive than the Harappan. He has deciphered it as '*ila-vartate vara*'. It refers to the sacred land bounded by the Saraswati River described in the Rig Veda {Rajaram Dr. N.S., 2000(1), p.120}. This shows that the Rig Veda came before the Harappan Civilisation of Circa 3100 – 1900 BC when the Harappan script was in use.

Rajaram claims the decipherment (of the sample shown on the BBC programme) was released to the media on May 12,1999 and carried all over the world {Rajaram Dr. N.S., 2000(1), p.121}. A similar method was used to decode Linear B which dealt with the Myceanean language which was prevalent before Greek by Ventris in 1952 AD (Rajagopalan R., 1995, p.33).

Rajaram states that he worked closely with Dr. N. Jha who deciphered the Indus script. The decipherment of more than 2000 Harappan seals by them shows that Vedic literature already existed by circa 3000 BC. The Rig Veda refers to maritime culture, oceans, ships and navigation {Rajaram N.S., 2000(2)}. Rajaram feels that the Vedic origin of the Harappan Civilisation will mean the Vedic Origin of all civilisations. There was no single 'Cradle of Civilisation'. The Rig Veda suggests that it was the culmination of an earlier, largely maritime civilisation and not the beginning of anything{Rajaram Dr. N.S., 2000(1), p.121}.

These strengthen the arguments of the marine archaeologists, astronomers cum astrologers and the scripture votaries that to place Rig-Veda in Iran, Iraq or Afghanistan is misplaced as Pandya and other old school historians have done. A holistic approach sheds light where there was coloured vision or blindness.

The renowned historian, Dr. Iravatham Mahadevan, IAS (Retd) after four decades of in-depth study during his spare time on the "Indus Script" with the aid of computers has prepared a concordance to decipher the Indus Script. He has established that "Indus Civilisation" is "Proto-Dravidian" or "Proto-Tamil" (Mahalingam Dr. N., 1998, p. 380). A copper ring has been obtained from Amaravathi riverbed. It is claimed that a proper name in late Harappan script is inscribed on it from left to right. It must have been used for identification (Mahadevan I., 19977, p.77). However, K.R. Srinivasan feels it is written both ways, left to right and right to left (Rajagopalan R., 1995, p.62).

In 1934, Vilmos Hevesy, a Hungarian Engineer turned amateur Epigraphist found 160 similarities of the Indus script with the Easter Island script. This connection was rejected by the 'Normal' Epigraphist (Rajagopalan R., 1995, p.62). The connection with Easter Island confirms Hancock's theory of a great maritime civilisation in the Sapta Rishi Era circa 10,000 BC.

Dr. M. Ramachandran & Dr. R. Madhivanan have read in the inscriptions of Indus Valley seals many Tamil proper names congruent with those in the ancient Tamil literature and some with unusual Tamil proper names found in use even now (Mahalingam Dr.N., 1998, p. 385). Prof. Madhivanan, during my discussions with him, claims to have seen Indus script in a cave near Villupuram, Tamilnadu. He draws attention to an overhanging rock near Keelvallai village in then South Arcot district, Tamilnadu with paintings of boats with four sailors below which an inscription in Indus script is found ((Mathivanan R, 1995, pp.12-13). There is also an Indus inscription found in Andhra Pradesh which shows that Indus was an all-India civilisation ((Mathivanan R, 1995, p.14). The Brahmi script originated as 'Tamili' in Tamilnadu and spread North. Dr. Abdul Huq and P.R. Srininvasan, Ex- Director of Epigraphical Survey of India both agree with this view (Mathivanan R, 1995, p.16). Sanskrit language adopted Tamil grammar known as Andrea grammar (Mathivanan R, 1995, p.19). This he feels conclusively proves that the Indus people migrated from Tamilnadu. The Swastika symbol is an Indus symbol meaning 'OM'. This was spread throughout the ancient civilisations of the world. It is found in Great Britain as 'Hammer of God – Thor' in Scandinavia, in Japan, China, Central and South America etc (Mathivanan R, 1995, p. 32). This brings us to the Sapta Rishi Era thesis of a great world-wide maritime civilisation.

There are references in Periyapuranam of Sekkilar to conversion from Jainism to Saivism because of the superiority of Saivaite verses, which did not burn but remained green palm leaves, when both Saivite and Jain verses were put to the 'Fire' test. This was the ten verses original sung at Tirunallaru (Periyapuranam Verse 784). This is taken as legend since there is no reference in older literature. These verses were composed by Tirugnanasambandar. The Cholas associated them with present Tirunallaru though there was a Tirunallaru near Madurai which was even more ancient (Vijayavenugopal, 2000,p.99). This is corroborated by an inscription of Chola Rajadhiraja I, in a land grant

in which the phrase 'pachai pati' occurs which is damaged at the end and is conjectured to refer to the 'Pachai Patikam' of Tirugnanasambandar. This shows that literature, legend and history were closely intertwined. It is not proper to reject the legend entirely because the verses and the two Tirunallarus exist.

In the 1950s and 1960s, the Indus Valley civilisation was dated around 1000-1500 BC. With more excavation, this has now been pushed back. If the areas indicated in our Purana are excavated and with luck, the astronomical dating may be corroborated by Archaeology. To rely on Archaeology alone is being dogmatic.

This writer has done some exploration on his own. He saw a rock painting in Vellerikorai rock, near Kotagiri in Nilgiris district, Tamilnadu. It has been copied on a copper plate (See Picture No. 20). It is rock art in Red Ochre. This is away from the settlement of Kurumba tribals and therefore untouched subsequently. This can be traced to the early Indus period circa 5000 BC. It shows a human figure with a ring around his head is being sacrificed to please an extra-terrestrial type of figure (E.T.- GOD) who with two *antennae is coming* out of a flame on top of an altar or hill. The flame could be a spaceship with flames due to rocket engines. The tree is the place of worship common in ancient times with a chief/ priest watching or performing the sacrifice. Th tree could represent the Tree spirit common in Indus seals. This corresponds well with the theory of Hancock who shows rock carvings in Egypt and South America where human beings are sacrificed to win the favour of Gods. This again shows the close connection between civilisations throughout the world. The hand shows the "Abhaya Hasta' or blessing posture so common in our temples. The '+' shows prosperity. It is the forerunner of Tamil Brahmi. Therefore, the scene depicts the prosperity that can be expected to come out due to the sacrifice. The paintings referred to in Keezhvalai are in similar red ochre in rock art (Mathivanan R, 1995(2), pp.72-73). The altar could be a Homa- Kunda and God coming out of it in ancient days could actually be an E.T. coming out of a spaceship described in our scriptures. Eric Van Daniken proceeds on similar lines in his book referred to above.

Sattur Sekaran has done a lot of research in the various languages of the world and his findings lend support to the theory that the Indus Script was Dravidian. As a result of his researches he came to the conclusion.

1. All the world languages had a common origin.

2. All the world languages could be traced to Tamil or Proto Tamil roots.

3. All world languages arose from Kumari Kandam.

4. Dravidian origin is present in all world languages(Mahalingam Dr.N., 1998, p. 388)

Dravidians navigated the seas with the help of stars and calculated months and days. The signs of the Zodiac have animals native to South India like Aries – Ram etc (Mathivanan R, 1995, p.31). This shows that Hancock, Rajaram and Mathivanan are talking about the same thing viz. A maritime civilisation spread throughout the world.

As seen in our section on Ancient Historical Tradition, 'Silappadhikaram', one of the five celebrated Tamil epics, written in the second century AD by Ilango Adigal, makes frequent references to a vast tract of country called Kumari Nadu (identified as Lemuria by European scholars) extending far beyond the present Kanyakumari, lying submerged in the Indian Ocean. There is no reason to disbelieve the Saint poet when other parts of his epic are related to reality as can be seen at Poompuhar even today. It is said that ancient Madurai (South Madurai) was the seat of the Tamil Sangham or Academy and that Kavatapuram or Muthoor was the capital of the Pandyan Kingdom. The Tamil commentators Atiyarkunallar, Nachinarkkiniar and Ilampuranar mention the submersion of the two rivers Kumari and Pahroli in Tamilagam. The country was interspersed with mountains with a bewildering variety of flora and fauna of the bygone age(Sampath Iyengar G.S., 1998, p. 31).

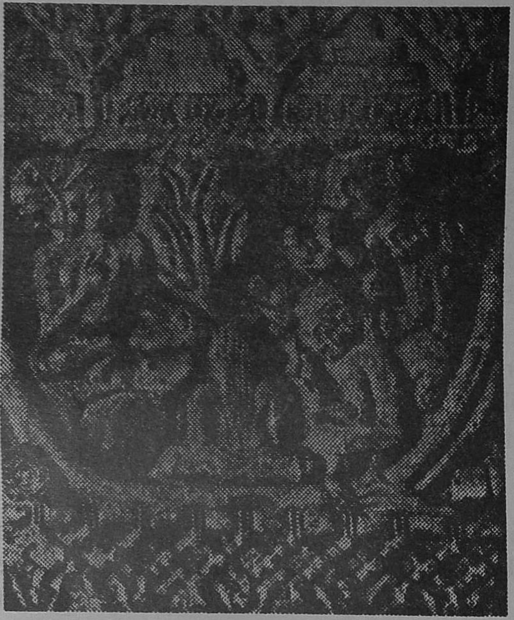
Some writers date the first Tamil Sangam from 6500-4800 BC. and that of the 2nd Sangam 4800-2800 BC., and of the 3rd from 2800-500 BC. The First Tamil Sangam is coextensive with the Sapta Rishi Era of 10000 – 8000 BC. This was also the Rig Veda period. In fact the ancient heritage of the Tamils extended up to 8000 years ago, when our brave forebears colonised lands in far away Mesopotamia, Egypt, South Africa and Parts of Europe in West and further extended their cultural contacts in South East Asian islands and in the east up to China and Japan (Ramachandran V.G., 1998, p. 35).

The controversy between Aryans and Dasyus turns over the right of precedence between Kings and Brahmans, and whether the holy food, or perhaps prayer, (ila) requires to be sanctified or not first by Brhaspati to whom the hymn as well as the verses are addressed, he being the lord or chief of Brahmins. Saraswati is closely connected with the heavenly waters (Sundar Raj M., 1997, p. 375).

The historical nature of the Rig Veda, which should be considered as Historical Record, can be seen from the description of the Saraswati. "Her unbroken flood comes with a rapid rush and tempestuous roar" (verse 8) (Sundar Raj M., 1997, p.376).Saraswati is 'another Sindhu', or 6.52.6 which says that she 'swells with Sindhu'(Sundar Raj M., 1997, p. 377).

A careful study of the Vedic literature, of the Rig Veda in particular, establishes beyond a doubt that it describes a maritime society. Nineteenth century Europeans like Max Mueller grossly misinterpreted the Vedas as the work of nomadic barbarians, who never saw the ocean (Rajaram Dr. N.S., 1999, p. 58).

On the contrary, it was from India that the Arya-Kshatriyas and Brahmins moved to distant lands for Aryanisation (Sakhyananda, 1998,p 25).



Picture No. 21 Rishi Dirghatapas teaching his disciples, Sunga, 2nd century B.C., Bharhut, Indian Museum, Calcutta

F.E. Pargiter, the most eminent Western authority on Puranic history (in his book Ancient Indian Historical Tradition reprinted by Motilal Banarsidas, New Delhi, 1962) points out that "Indian tradition knows nothing of any..........Aryan invasion of India from Afghanistan, nor of any gradual advance from thence eastwards" (p.298). Pargiter's analysis of the traditions of the Puranas shows him that the "Aryans began at Allahabad, conquered and spread out north-west, west and south" (Talageri Shrikant G., 1998, p. 234).

Later, there was an outflow of a section of the Aryans, "the Druhyus, through the North-west into the countries beyond, where they founded various kingdoms" (p. 298). The Aryans, or Indo-Europeans, found, outside India are, therefore, the result of "an outflow of people from India before the fifteenth century BC (from p.300 of F.E. Pargiter by Talageri Shrikant G., 1998, p. 234)

This documented emigration is in exactly the opposite direction to the purely hypothetical migration proposed by the scholars from south Russia to central Asia to north-western India. (Talageri Shrikant G., 1998)

A comparative study of Vedic scientific literature and that of Old-Babylon and Egypt reveals that both the Old-Babylonian (Amorite) empire, and the Egyptian Middle Kingdom (2050 – 1800 BC) derived their mathematics from Vedic India. This has been stated by the American mathematician and historian of science, the late A. Seidenberg. This now gives a scientific basis for the chronology not only of Vedic India, but also Egypt and Mesopotamia {See Vedic Aryans and the Origins of Civilisation by Rajaram and Frawley (Rajaram Dr. N.S., 1999, p. 58)}.

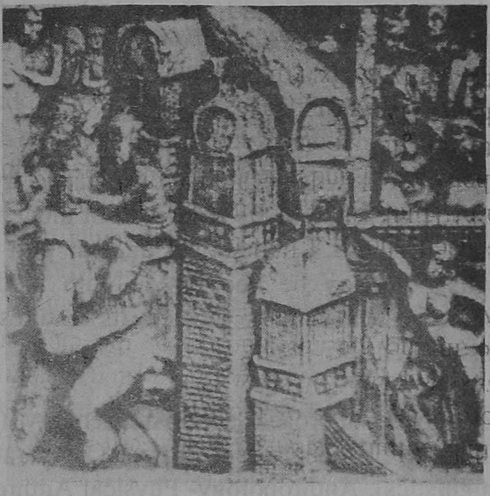
Triangulation between literature, sculpture, painting, architecture, coins and manuscripts (Epigraphy) has been analysed by Dr.C.Sivaramamurti with respect to certain Sanskrit works.

Picutre No. 22. Multi-storied monastery, Satavahana, 2nd century B.C., Amaravati, Chennai Government Museum

Sculpture, Architecture and Epics

Sivaramamurti is able to relate the Bharhut sculpture in the Indian Museum, Calcutta which this writer also saw with the Taittiriyopanishad. The *Sruti* (Oral) tradition of reciting the Vedas and having it repeated by the disciples is depicted here. The script is early Brahmi and statue Sunga 2nd century BC. The label is 'Digha Tapasi sire anusasti'- Rishi Dighatapasi is teaching his disciples (Sivaramamurti Dr.C, 1979, p.2). This shows that this method can be extended to Ancient periods as well. Our scriptures reflect the then prevalent civilisation.

The connection between the Ramayana, which describes multi- storeyed buildings and the Amaravati sculpture in the Government Museum, Chennai, which shows a multi-storeyed monastery, is also seen (Sivaramamurti Dr.C, 1979, p.123). This writer during his visit to Amaravathi found a close correspondence between the location of the Archways (Toranas) and gateways of Ramayana. This shows the Puranas depict not mere imagination but mostly facts. This shows Ramayana has to be taken as Historical Record.



Picture No. 23. City gateway, Satavahana, 2nd century A.D., Amaravati, Chennai Government Museum.

Manuscripts

The difference between the earlier and later editions of Smith's Early History of India due to the discovery of Kautilya's manuscript 'Arthasastra' is highlighted (Sivaramamurti Dr.C, 1979, p.159). This writer has made a similar point regarding Sir Mortimer Wheeler, which we have seen.

Subsequent Epigraphic Proof for the War of 3067 BC.

The astronomical data that Prof. K. Srinivasa Raghavan used for fixing the date of Mahabharata War circa 3067 BC is greatly supported and corroborated by Epigraphic evidence.

1. The Aihole Inscription of Pulikesi II (Mysore) supports this date of the Mahabharata war. Ravikirti's Prasasti or Panegyric in the Aihole inscription is the earliest to mention Kalidasa (Sivaramamurti Dr. C., 1979, p.101). Hence, there is some historical basis to this inscription. Sivaramamurti started his illustrious career in the Government Museum, Chennai (Madras).

2. Hissa Borla Inscription of Devasena (in Akola) fully triangulates the Aihole Inscription fixing the date of Mahabharata War circa 3100 BC.

3. The most clinching evidence is the Janamejaya Copper Plate Gift Inscription circa 3012 BC. Janamejaya is Arjuna's great grandson and he endows a gift of land for the temple of Sri Sita and Sri Rama on the bank of the Tungabhadra river. The Emperor Janamejaya's inscription finds authentic mention in the 'Indian Antiquerry' pp.333-334 and is cited also in Kota Venkatachalam's 'Ancient Hindu History' Part I pages 13 to 15 (Ramachandran V.G., 1998, p.111-112).

CONCLUSION

If the Government of India is persuaded by the Tamil Nadu Government to have an oceanic expedition in the area, west of modern Ceylon up to Africa as has been done near Dwaraka where a submerged ancient port has validated the Mahabharata, Lemurian Civilisation may be uncovered. With modern facilities as satellite survey etc., the submerged land may be located, its features examined, ruins of our ancient civilisation rediscovered etc.

The holistic approach uses Archaeology (including Marine Archaeology), scientific techniques of Independent Dating, Comparative Philology and Linguistic Palaeontology (Linguistics), Anthropology- Physical Anthropology & Cultural Anthropology, Genetics, Ancient Historical Tradition (like Epics), Astrology, Astronomy and Historical Records (including Epigraphy) etc., simultaneously. This has made us to see Ancient History especially Indian History in a totally new light.

We have the 'big' picture as a result of our detailed analysis of each discipline with cross connections and we can draw several conclusions.

The results of our holistic approach shows the unreliability of Linguistics for dating. It shows that Lemuria was the cradle of civilisation, if at all there was one. Tamil and Sanskrit are inter-related. Sanskrit is possibly a refinement of Proto-Tamil.

There appears to have been a huge landmass Lemuria that has since submerged into the sea as a result of sea level changes. This is a concept of the ancient Tamils and its role as a cradle of civilisation is established by a combination of Anthropology, Genetics and Tamil literature.

Migration is not only by land but also by sea. It occurs not at one point of time or in one direction but at several time periods and directions. Migration is not only through land upwards through Egypt and North Africa but by land through the then existing land mass of Lemuria and by sea to Asia, America, Oceania (Australia) and Europe. This is ignored in the Received Wisdom, which is slowly beginning to change under the onslaught of modern research and disciplines such as Anthropology, Astronomy cum Astrology, newer scientific methods and new finds in Archaeology etc.

The entire human race Homo Sapiens has evolved from Africa. Human culture got refined in Lemuria and at other centres of the ancient world like Indus Valley, South India, Egypt, Latin America, Middle East etc. There was exchange of ideas with other cultures through trade, migration or teachers. The age of these ancient civilisations is circa 10000 BC and not 5000-4000 BC as was commonly believed. These cultures have so many common features like astronomical basis of their Gods etc., that they can be called different parts of one great civilisation.

Triangulation of archaeology with Historical records etc., has shown the hollowness of widely held theories like the Aryan invasion or the cause of the decline of Indus type civilisation and its dates like 1500 BC pushing it back to at least circa 3000 BC. There is a counter theory of a push to the West from East India or Lemuria. Proto- Tamil (Dasyam) was a likely source of Sanskrit. The dates of the Rig Veda have been pushed back at least to circa 8000 BC. Events like the birth of Lord Krishna, Kaliyuga etc., have been validated. The horse is found to be an animal used in Ancient India and not a recent import circa 1000 BC as was thought earlier.

A maritime civilisation that spread through out the world is established. Even the date of the Sphinx and Stonehenge is called into question. The Sapta Rishis were the teachers of the whole world. This civilisation had spread even into South America. This is during the age of the Rig Veda circa 10000 BC. Indian culture is reflected in Mayan, Incan and other Latin American cultures.

Astronomy and Astrology together with Marine Archaeology has validated that Rama and Krishna were historical personalities. The Mahabharata and Ramayana are not a figment of imagination but recorded history.

India knew about Precession and Astronomy so much that even today with the latest technology and computer simulation our Precession values hold good. Even in recorded history the date of birth of Adi Sankara is pushed back to circa 6th century BC from 8th

century AD. This is based on Astrological cum Astronomical analysis. Many symbolisms in our epics and Vedas are related to astronomical phenomena like the Mooladhara Chakra and Rudra (Siva). These help in precise dating. The Black Hole Theory of matter and anti-matter was known to our seers. They are described as Astronomical allegories in our Puranas.

The date of commencement of Kaliyuga is found to be accurate as astronomically calculated and verified even with the sophisticated astronomical instruments of today. A similar precision is found in the calculation of the duration of the year by Aryabhatta.

Historical records such as Sculpture, Inscriptions, Coins should include our Epics like Mahabharata and literary epics like Silappadhikaram which contain a lot of historical data. Analysis shows that the picture they portray is reflected in Historical Records as we have seen earlier. The deciphering of Indus script thought not undisputed makes it clear that it is the forerunner of all Indian script – Brahmi. This script and culture was spread throughout India.

There is clear Triangulation among the different disciplines which probe into History. If aggregated by integration, they give the same '***big***' picture. Therefore, a holistic approach to Dating is the only reliable and prejudice and hunch proof method of Dating in Ancient History in the absence of settled historical records.

It must be admitted that a wide diffusion of a common knowledge must have existed from Alexandria to Ujjain, from Greece to Mohen-jo-Daro. What is important is the knowledge, that culture gave us, and not who actually gave it.

To that culture belonged the discovery of the Uniformity of Nature, expressed in the sonorous cadences of the Brihat Aranyaka Upanishad, '*Esha Atmasama Plusina Samo Masakena, Samo Nagena, Samo Ebhis Tribhir Lokaih, Samo Sarvena*' – The soul is the same in the ant, the mosquito, the elephant, the three worlds and through out the Universe.

This itself shows a holistic approach. I am reminded of the Elephant and Seven Blind Men of Hindosthan of Rudyard Kipling. One felt the trunk and said it was like a snake, another the tail and said it was like a rope, the third the ear and said it was like a fan, a fourth felt the stomach and said it was like a wall and so on. But none said it was an elephant. This writer feels that a holistic approach will help to recognise the animal for what it really is viz. An elephant.

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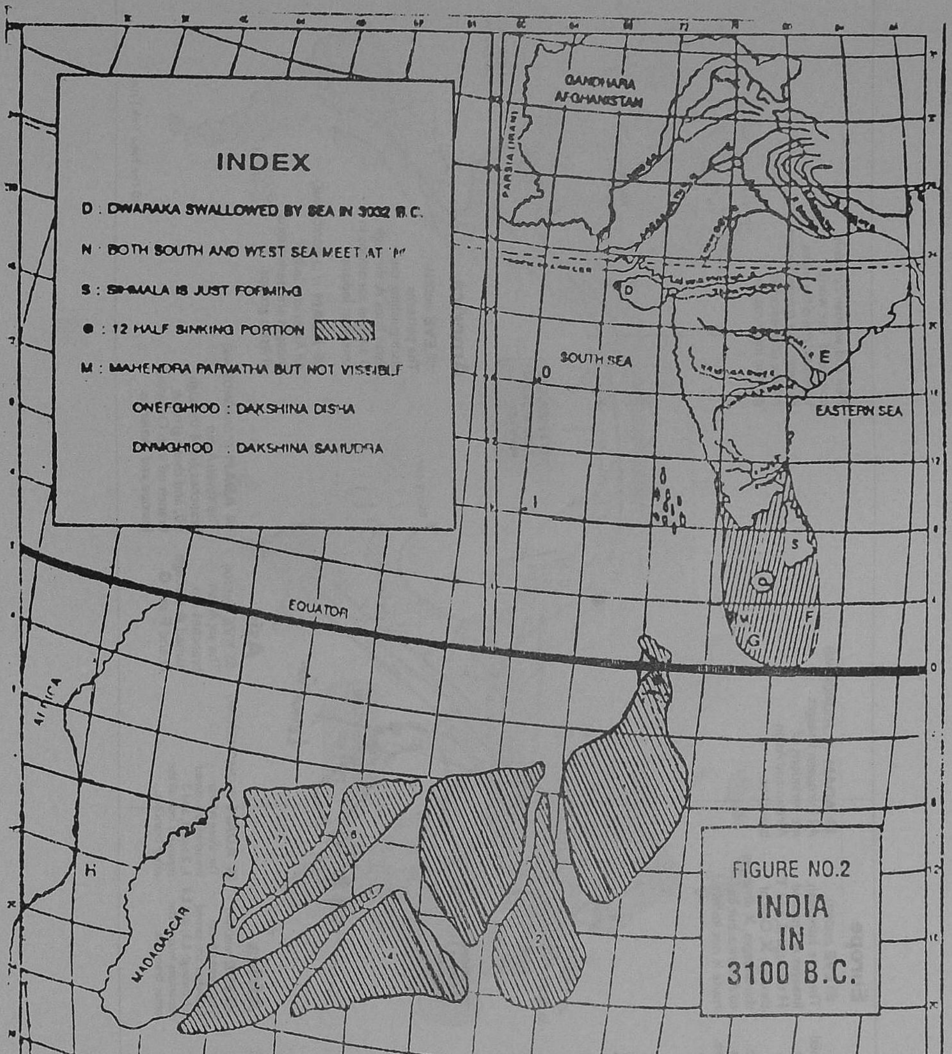
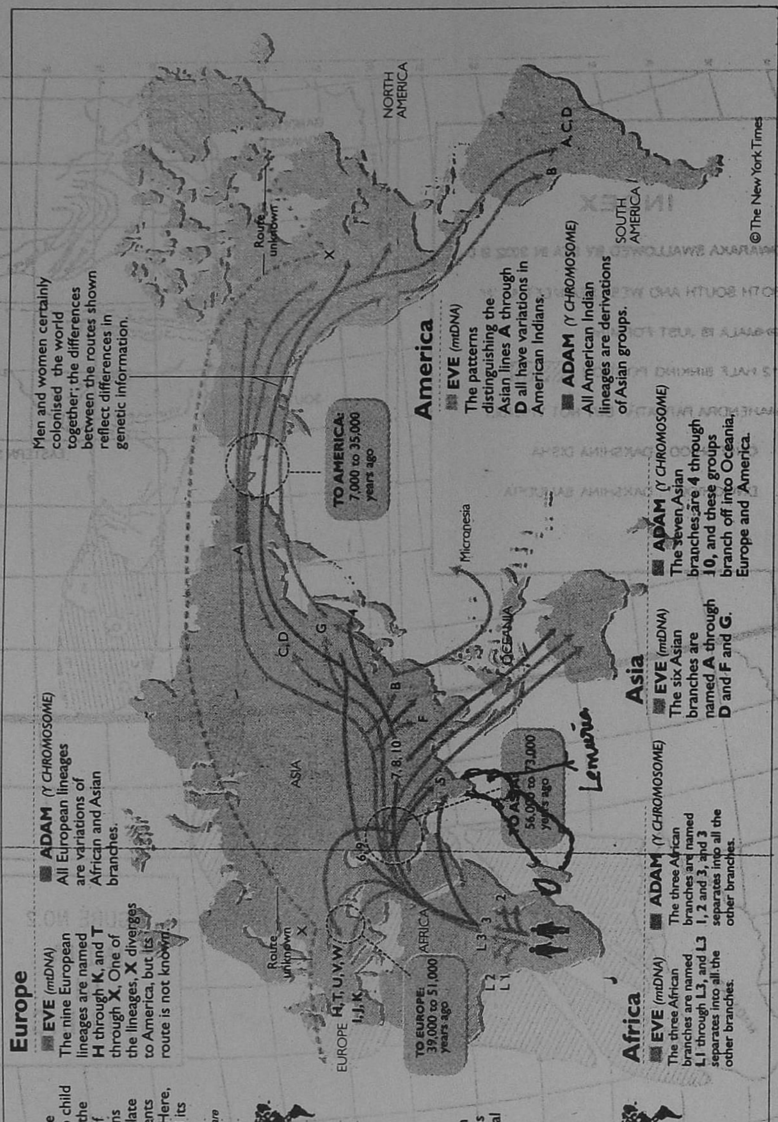


Picture No. 2 India circa 3100 B.C (Sampath Iyengar 9.8.1988)



Picture No. 3 The Story of Human Migration (adapted from New York Times)

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